6.2.3.4 MR

From the tree menu, you can select MR to move on to the measurement report setup page. Choose one of trigger quantities (RSRP, RSRQ, RSCP, Ec/No) from the list. Insert threshold value and click the Save button as shown in Figure 36 below.

Please refer to Table 13 below for the detailed input parameter information.

* All units are defined reported value from TS36133 (RSRP: 9.1.4, RSRQ: 9.1.7), TS25133 (RSCP: 9.1.1.3, Ec/No: 9.1.2.3).

Menu	Description
Intra-frequency EUTRAN HO	Select the Event A3 or A4. If you select event A3, then A3 is supported. (Event A4 is the same as A3.)
Inter-RAT HO/Redirect/SRVCC	Select the Event B1 or B2. If you select event B1 then B1 is supported. (Event B2 is the same as B1.)
A1, A3, A4	Select the type of trigger quantities for each event.
A2	Select the type of trigger quantities for each event. There are 4 options in A2 Event. Inter-freq Ho, Inter-RAT HO/REDIR, SRVCC, Blind Redirection. If you don't want to use event, then insert 0 in threshold value.
RSRP, range: [0, 97]	Insert RSRP threshold for each event.
RSRQ, range: [0, 34]	Insert RSRQ threshold for each event.
Intra-Freq HO/ANR range: [-30, 30]	Insert Intra-Freq HO/ANR offset value.
A5	A5(Inter-Freq Ho, Inter-Freq ANR) threshold range is RSRP/Q1 - RSRP/Q2.
B1 (UTRA) **B2 (UTRA / GERAN)**	Select the type of trigger quantity to each event.
RSCP, range: [-5, 91]	Insert a RSCP threshold values for each event.
Ec/No, range: [0, 63]	Insert an Ec/No threshold values for each event.
RSSI, range: [0, 63]	Insert threshold value to each event (B1, B2).

Table 13: Description of MR parameter

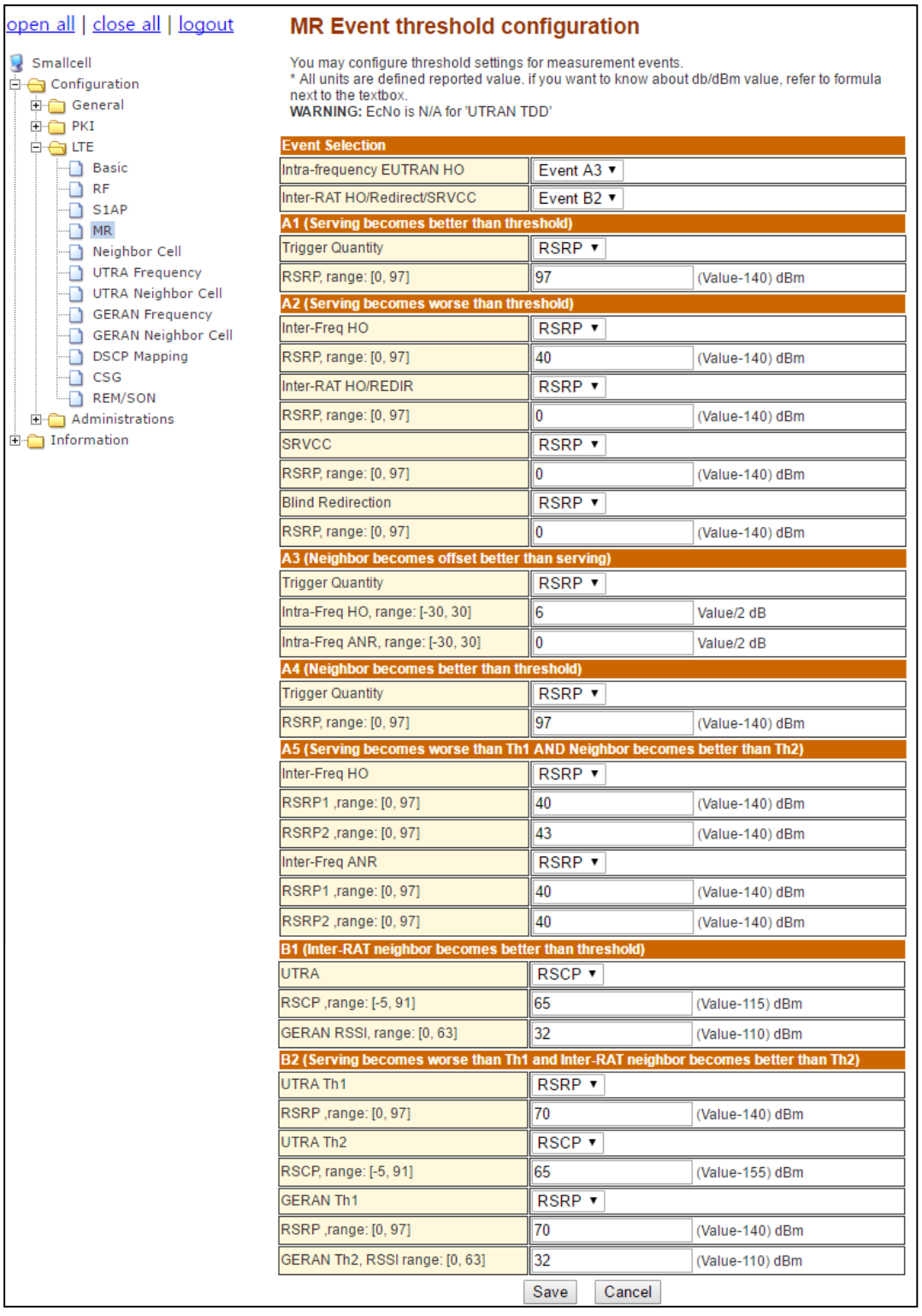


Figure 36: A1 - A5, B1, B2 MR Setup menu

6.2.3.5 Neighbor Cell

From the tree menu, select Neighbor Cell to move onto the Neighbor Cell setup page. You can Add Neighbor Cell and modify/delete a registered neighbor cell.

Please refer to Table 14 for detailed input parameter information. Like other setting procedure, the changes must be saved.

Menu	Description
eNodeB Type	Select the type of Neighbor Cell.
IP Address	Insert IP address of Neighbor Cell for X2 HO.
Cell ID	Insert eNodeB ID of Neighbor Cell.
PLMN ID	Insert PLMN ID of the Neighbor Cell.
TAC	Insert TAC of the Neighbor Cell.
PCI	Insert PCI of the Neighbor Cell.
DL EARFCN	Insert DL EARFCN of Neighbor Cell. This must be the frequency value included within EUTRA Frequency under basic menu.
UL EARFCN	Insert UL EARFCN of Neighbor Cell. This must be the frequency value included within EUTRA Frequency under basic menu.
q-OffsetCell	Insert q-OFFSET of the Neighbor Cell.
X2 Trigger	Select X2 setup is enabled or disabled for the neighbor cell. If X2 Trigger is disabled, S1AP based hand-out triggered. If X2 Trigger is enabled, X2 based hand-out triggered.
Access Mode	Select the type of Access Mode.
CSG ID	Insert CSG ID of the Neighbor Cell

Table 14: Description of Neighbor Cell Parameter

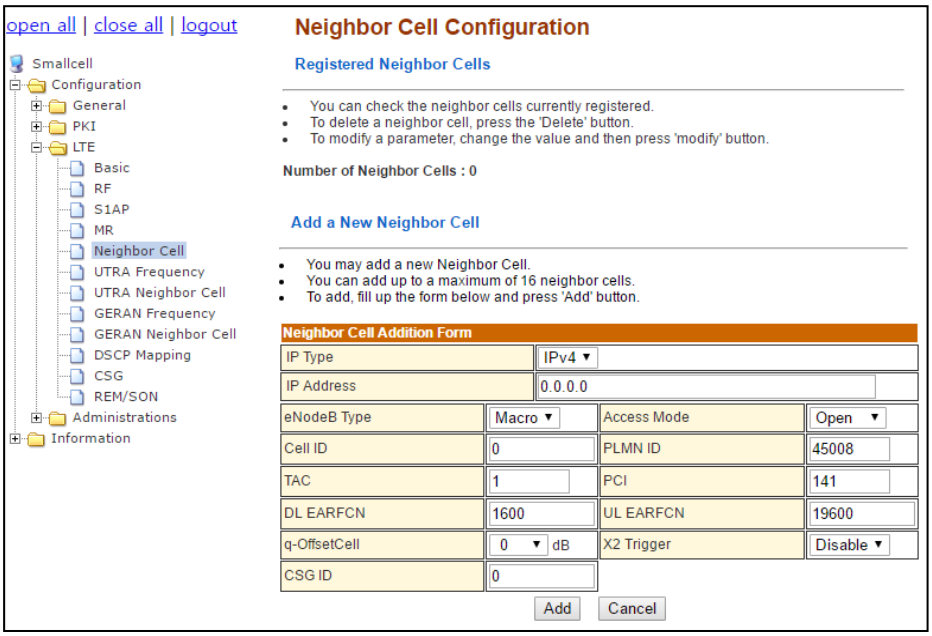


Figure 37: Neighbor Cell configuration page

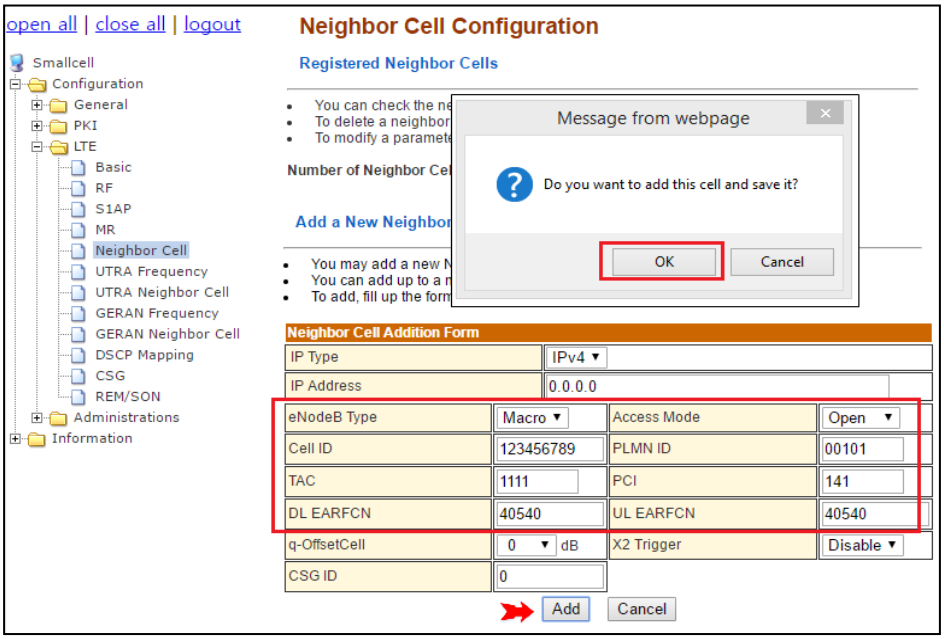


Figure 38: Neighbor Cell Add Confirmation Window

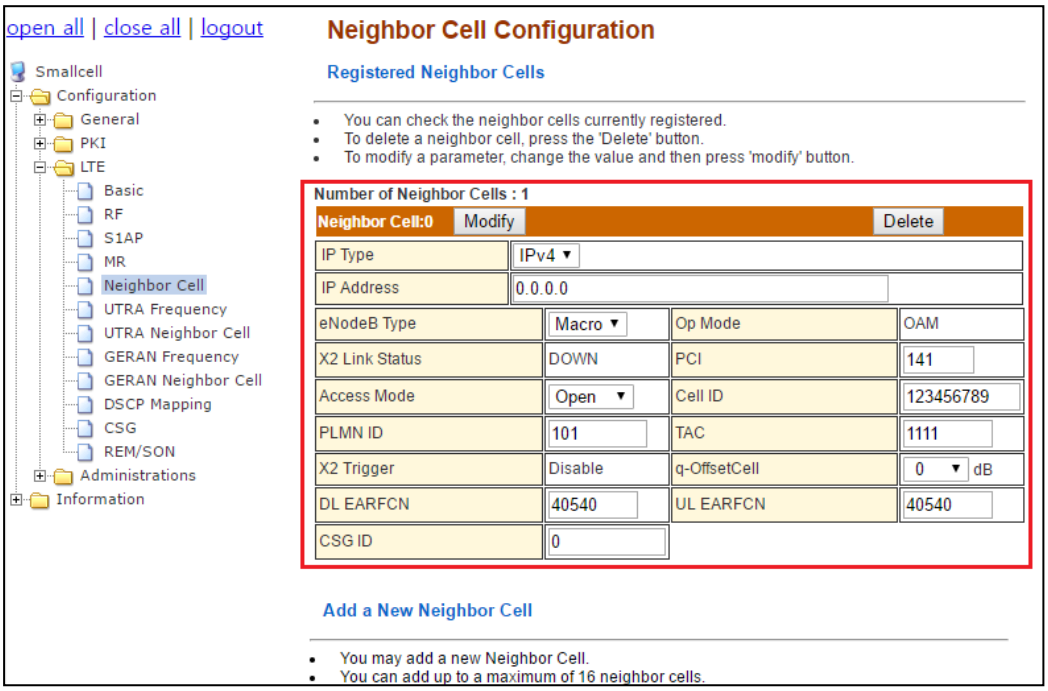


Figure 39: Registered Neighbor Cell Information

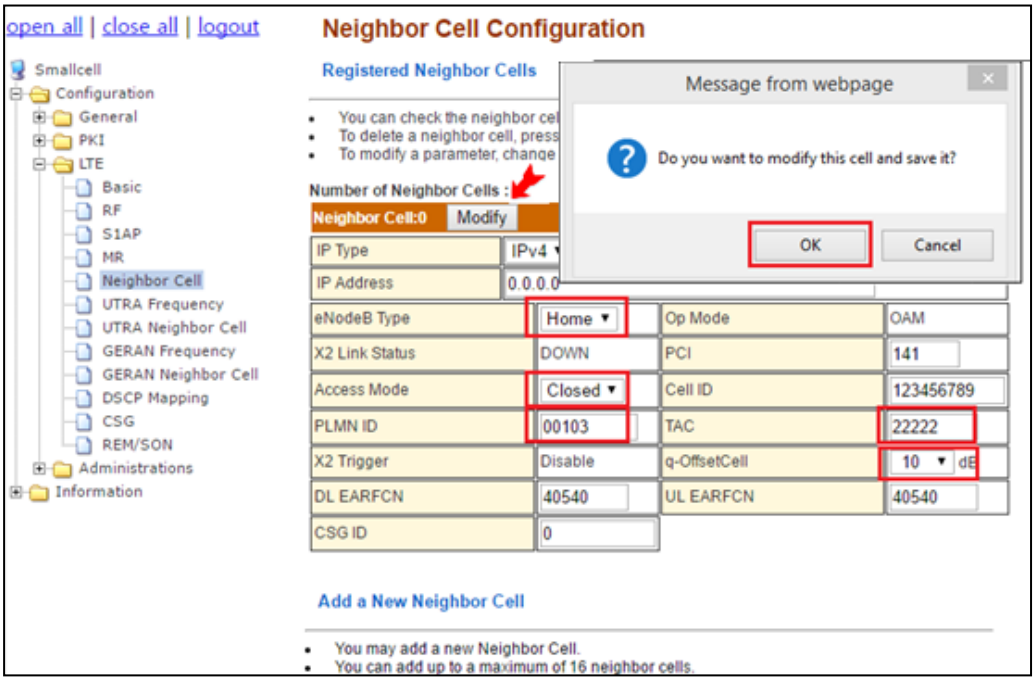


Figure 40: Neighbor Cell Modify Confirmation Window

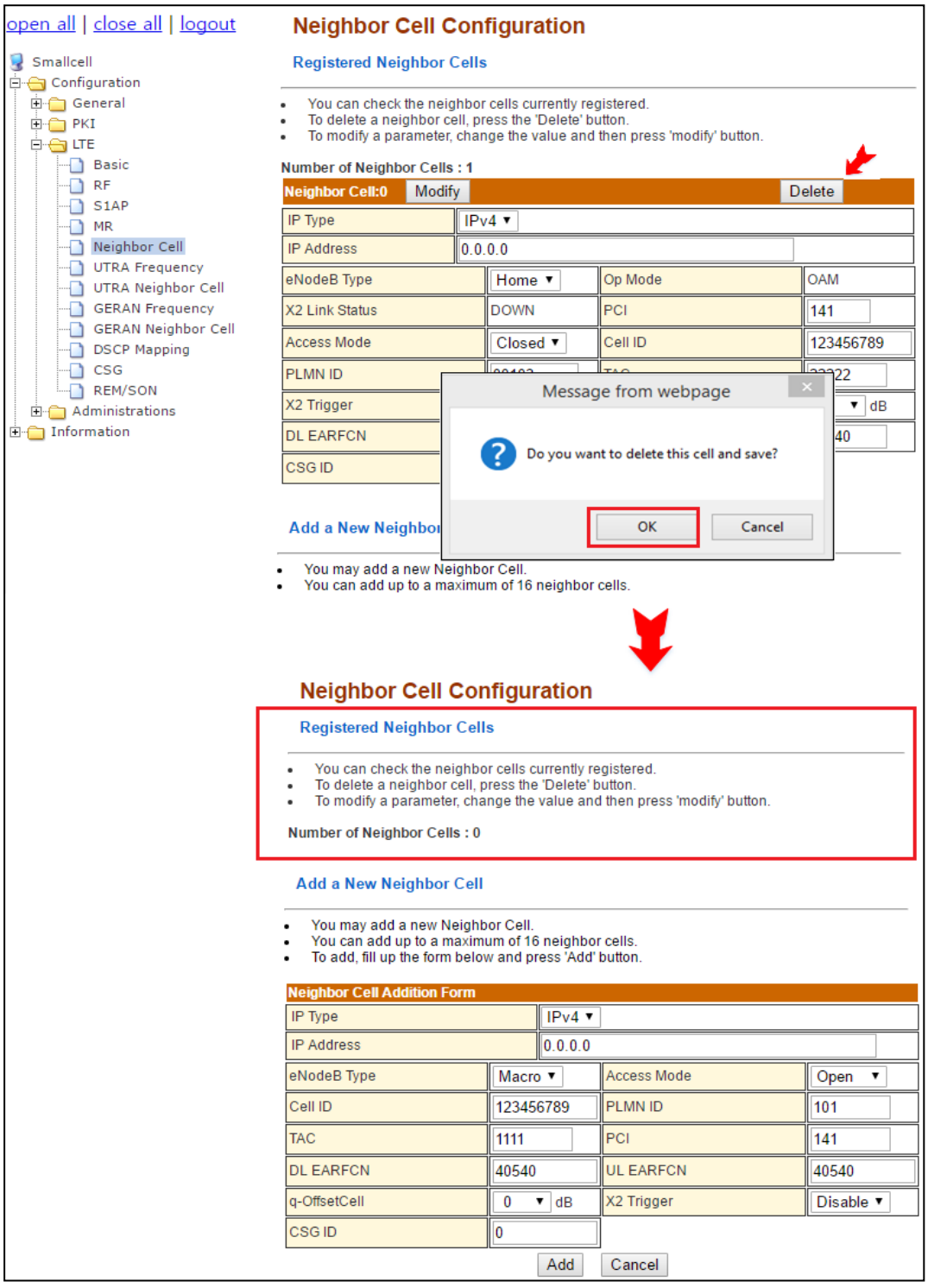


Figure 41: Neighbor Cell Delete Confirmation Window

6.2.3.6 UTRA Frequency

From the tree menu, select UTRA Frequency to move onto the UTRA Frequency setup page. You can add a UTRA Frequency and modify/delete a registered UTRA Frequency. If inter-RAT Handover to UTRA Frequency is required, please choose Handover in Mobility to UTRA. Please refer to Table 15 for detailed input parameter information.

Menu	Description
Mobility to UTRA	
UTRA FDD /TDD	Select **Handover** or **Redirection for UTRAN**.
UTRA Frequency Form	
Duplex	Select type of duplex.
Band Indicator	Case of TDD, Band indicator is enabled (Band A - Band F).
Thresh X High	Insert Thresh X High of UTRA Frequency.
Thresh X Low	Insert Thresh X Low of UTRA Frequency.
Offset Frequency	Insert Offset Frequency of UTRA Frequency.
CSFB	Select CSFB enable or disable.
Cell Reselection Priority	Insert Cell Reselection Priority of UTRA Frequency.
DL ARFCN	Insert DL ARFCN of UTRA Frequency.
UL ARFCN	Insert UL ARFCN of UTRA Frequency.
Qrxlevmin	Insert Qrxlevmin of UTRA Frequency.
Pmax UTRA	Insert Pmax UTRA of UTRA Frequency.
QqualMin	Insert QqualMin of UTRA Frequency.

Table 15: Description of UTRA Frequency Parameter

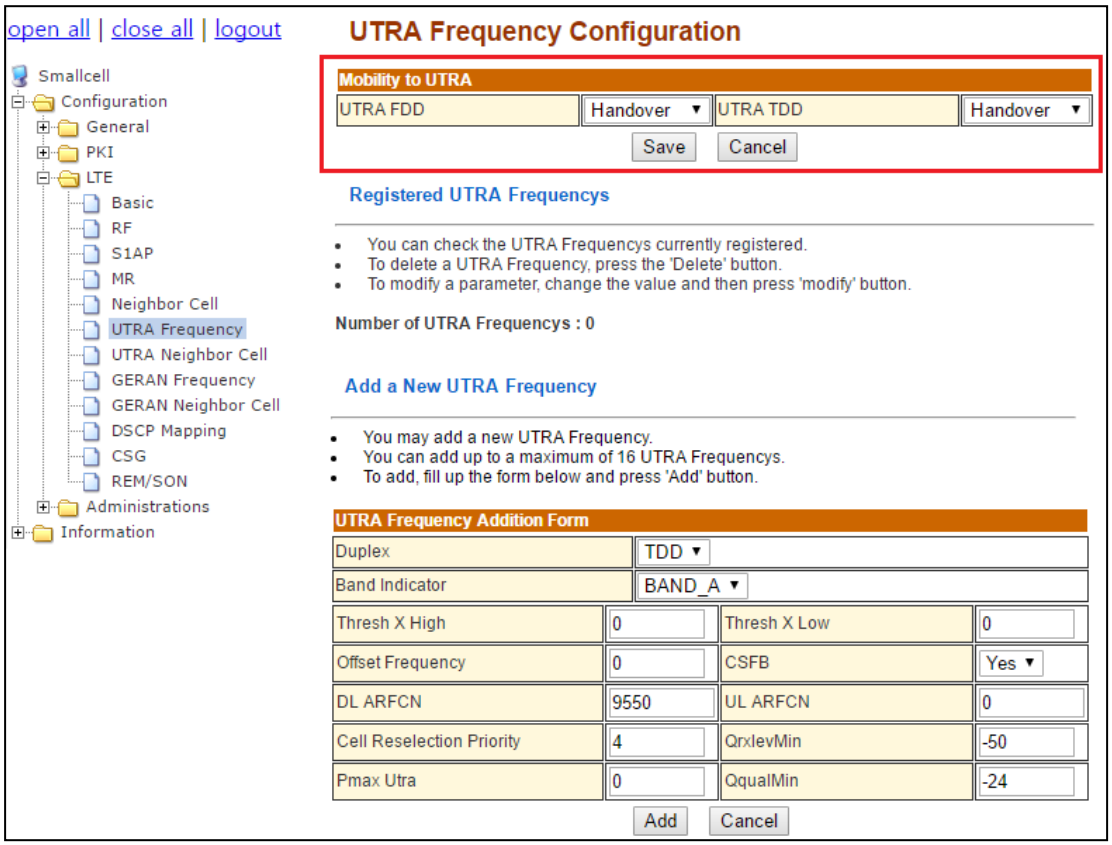


Figure 42: Mobility to UTRA setup on UTRA Frequecny menu

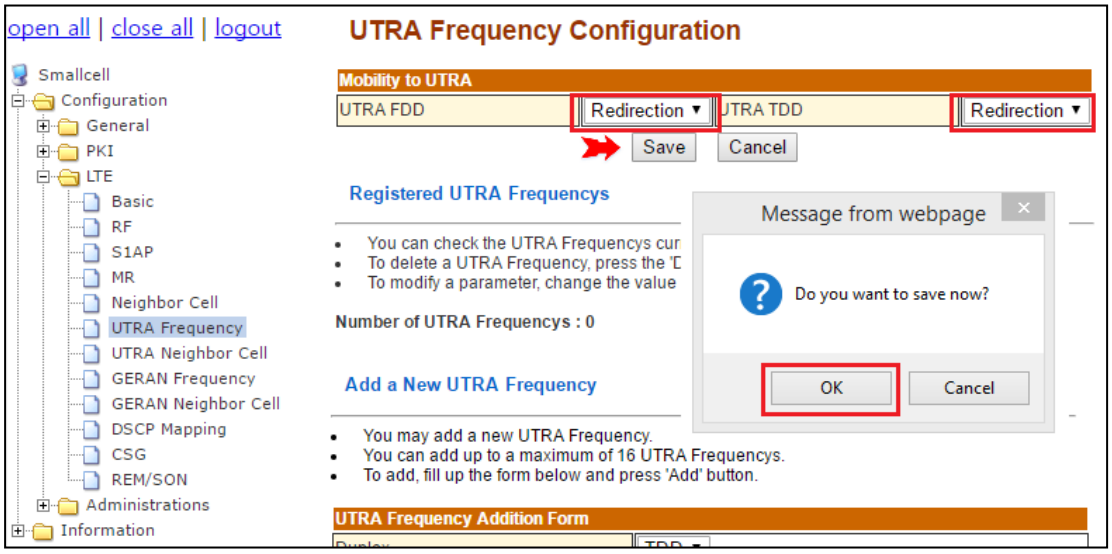


Figure 43: Mobility to UTRA save confirmation on UTRA Frequency menu

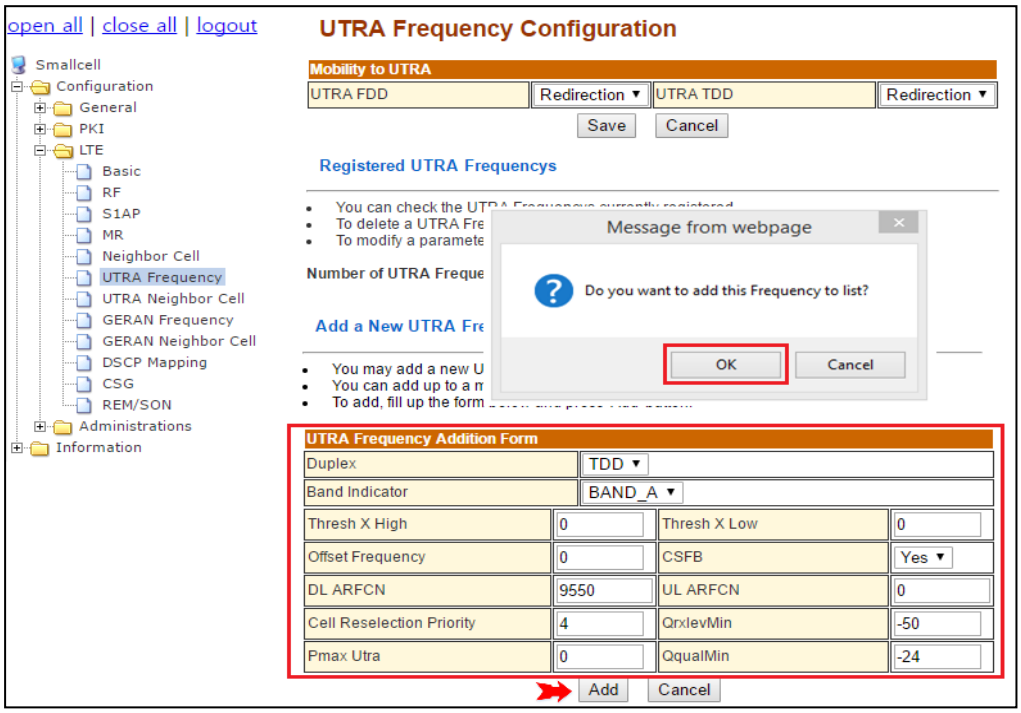


Figure 44: Add UTRA Frequency and Confirmation

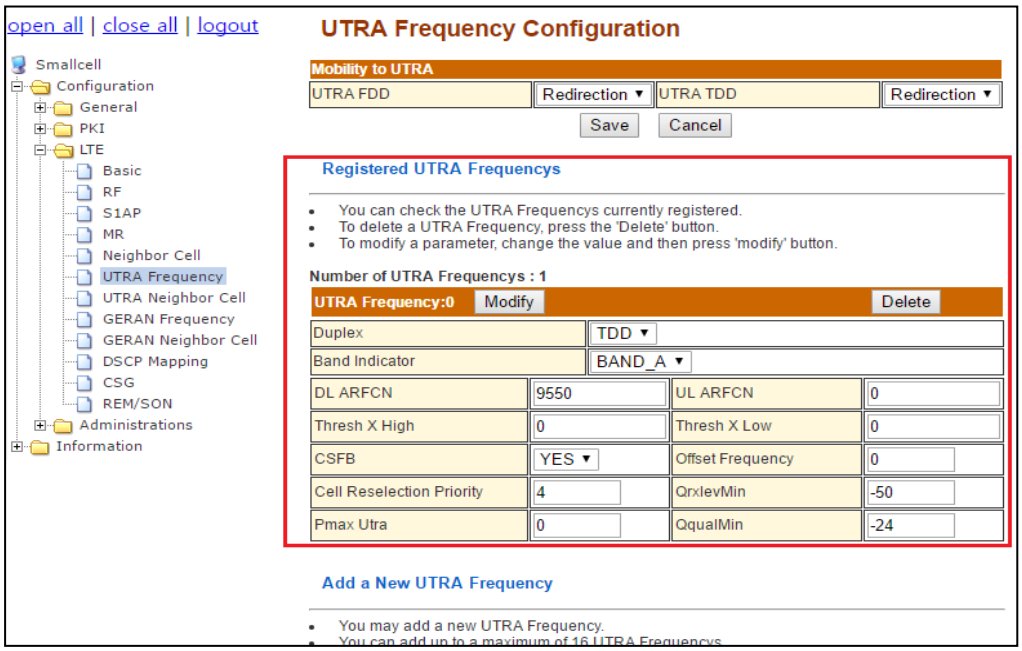


Figure 45: New UTRA Frequency Registered

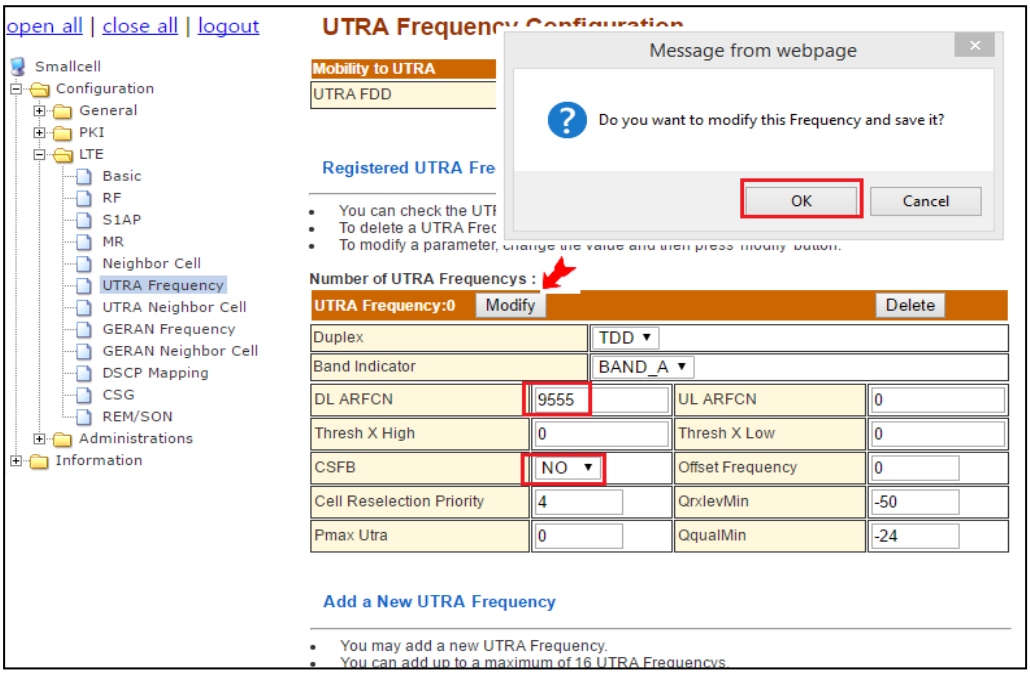


Figure 46: Modify Registered UTRA Frequency and Confirmation Window

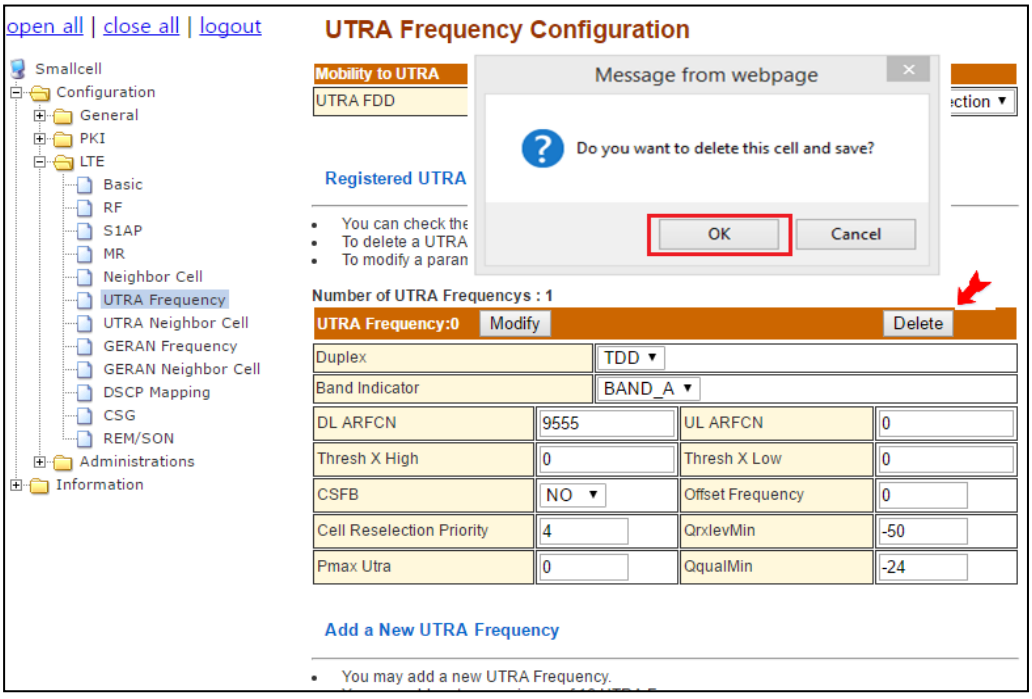


Figure 47: Delete registered UTRA Frequency and Confirmation

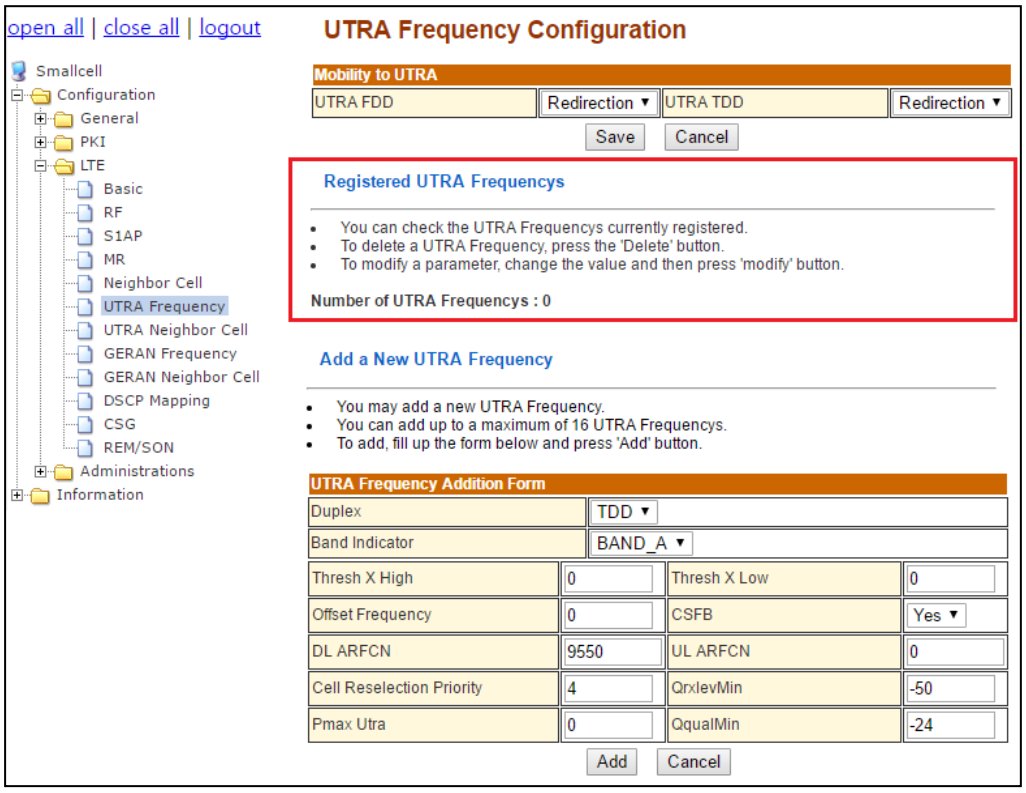


Figure 48: Result of registered UTRA Frequency deletion

6.2.3.7 UTRA Neighbor Cell

From the tree menu, select UTRA Neighbor Cell to move onto the UTRA Neighbor Cell setup page. You can Add UTRA Neighbor Cell and modify/delete a registered UTRA Neighbor Cell. If inter-RAT Handover to UTRA Neighbor Cell is required, please choose Handover in Mobility to UTRA. Please refer to Table 16 for detailed input parameter information

Menu	Description
Mobility to UTRA	
UTRA FDD / TDD	Select **Handover** or **Redirection for UTRAN**.
UTRA Neighbor Cell Form	
RNC ID	Insert RNC ID of UTRA Neighbor cell.
CELL ID	Insert CELL ID of UTRA Neighbor cell.
IP Address	Insert IP Address of UTRA Neighbor cell.
PLMN ID	Insert PLMN ID of UTRA Neighbor cell.
DL ARFCN	Insert DL ARFCN of UTRA Neighbor cell. (This must be the frequency value included within UTRA Frequency under UTRA Frequency menu)
UL ARFCN	Insert UL ARFCN of UTRA Neighbor cell. (This must be the frequency value included within UTRA Frequency under UTRA Frequency menu)
LAC	Insert LAC of UTRA Neighbor cell.
RAC	Insert RAC of UTRA Neighbor cell.
URA	Insert URA of UTRA Neighbor cell.
PCS	Insert PCS of UTRA Neighbor cell.
Pcpich Tx Power	Insert Pcpich Tx Power of UTRA Neighbor cell.
Duplex	Select type of duplex.
Ccpch Tx Power	Insert Ccpch Tx Power of UTRA Neighbor cell.
Is Rim Supported	Insert Is Rim Supported of UTRA Neighbor cell.

Table 16: Description of UTRA Neighbor Cell Parameter

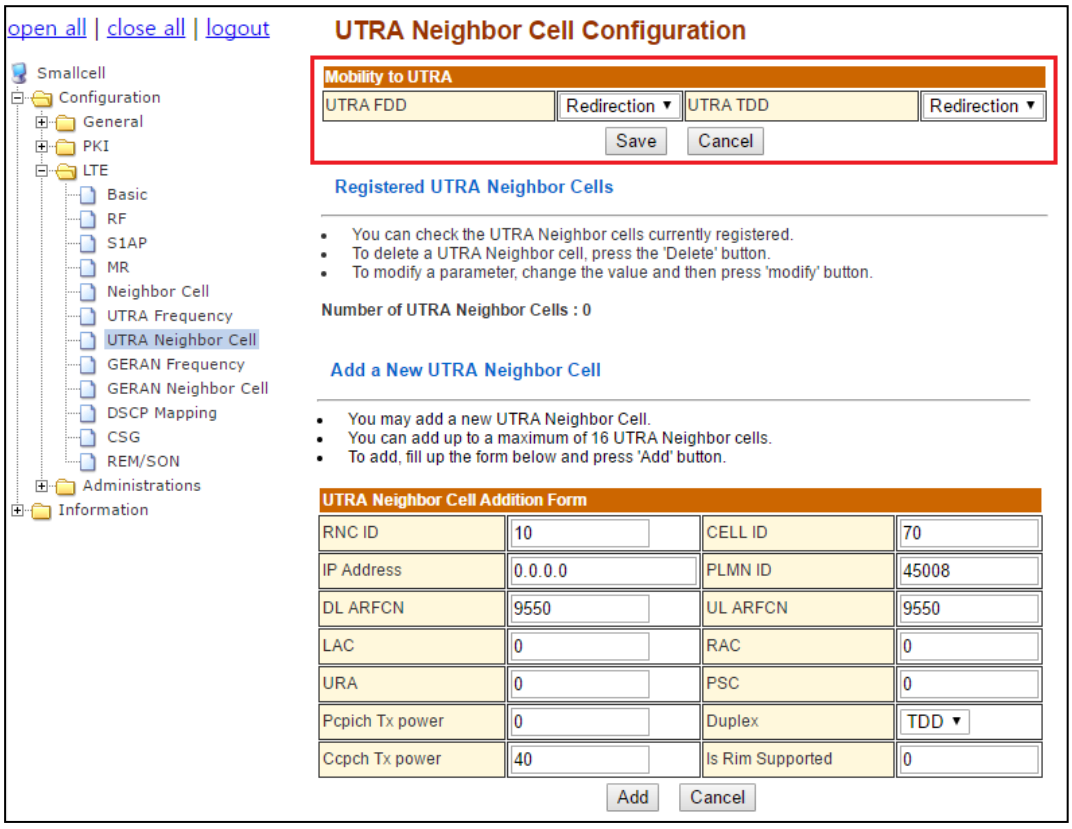


Figure 49: Mobility to UTRA setup on UTRA Neighbor Cell menu

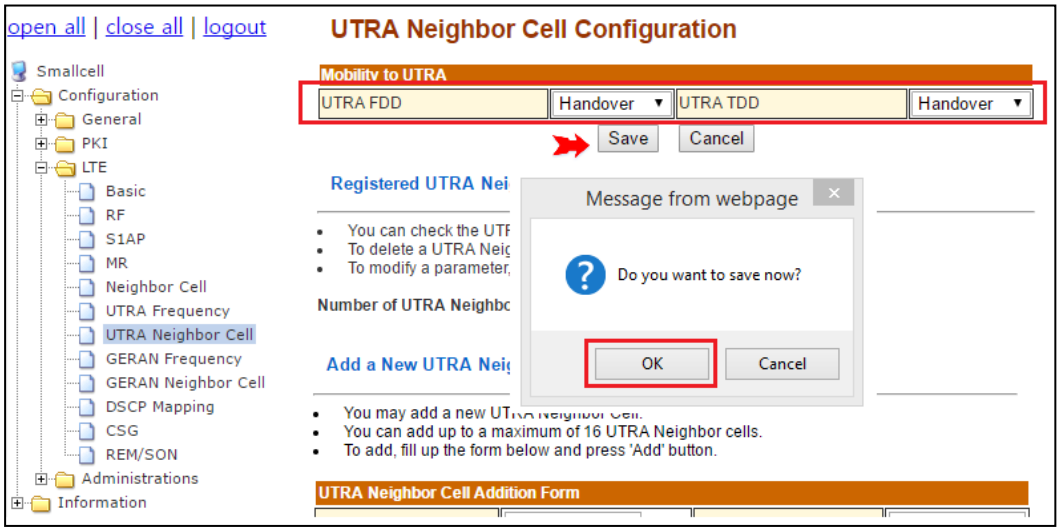


Figure 50: Mobility to UTRA setting and confirmation on UTRA Neighbor Cell

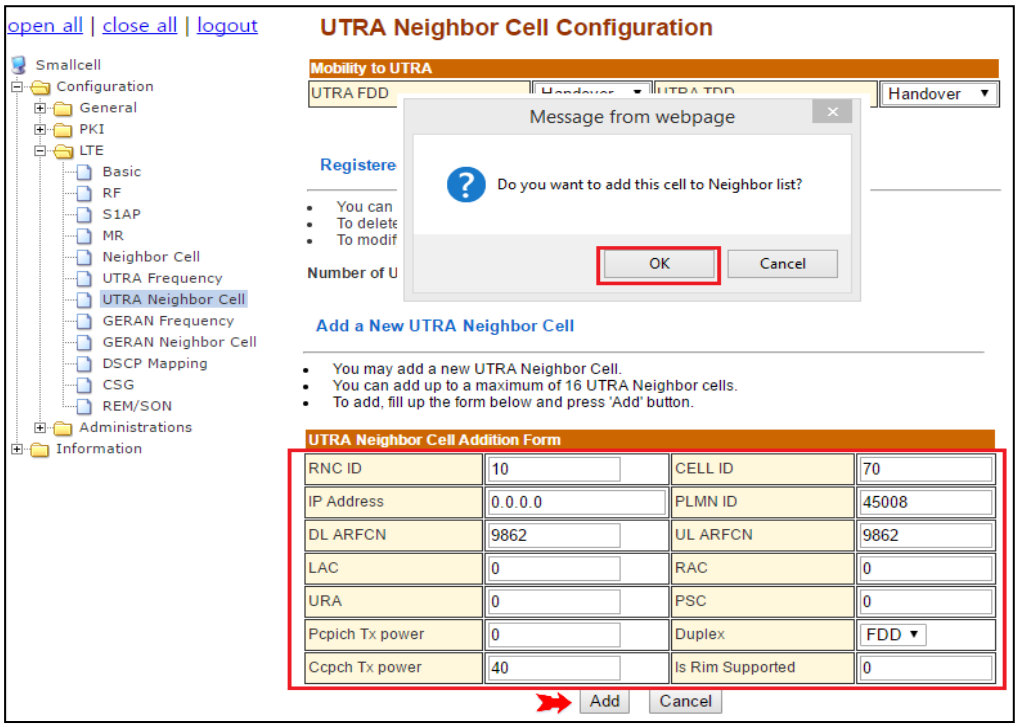


Figure 51: Add UTRA Neighbor Cell and Confirmation

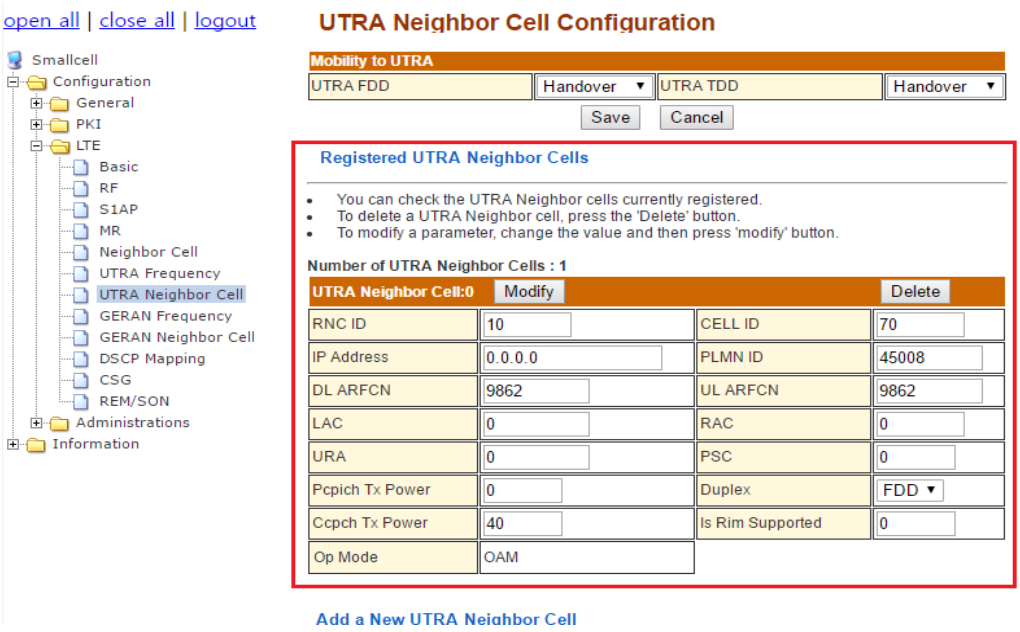


Figure 52:New UTRA Neighbor Cell Registered

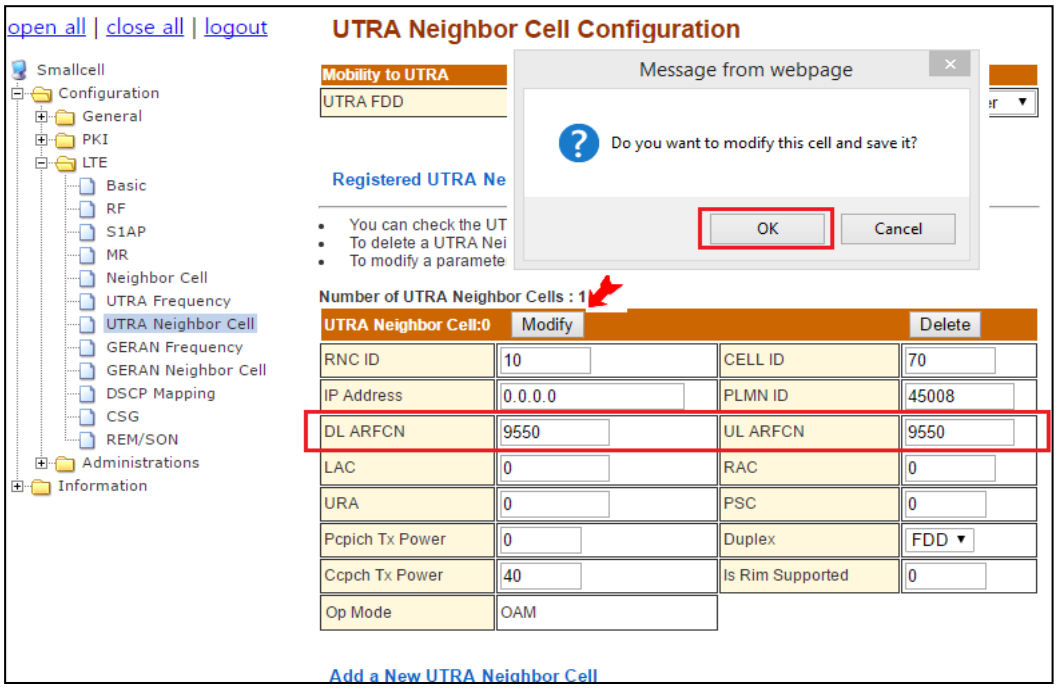


Figure 53: Modify Registered UTRA Neighbor Cell and Confirmation Window

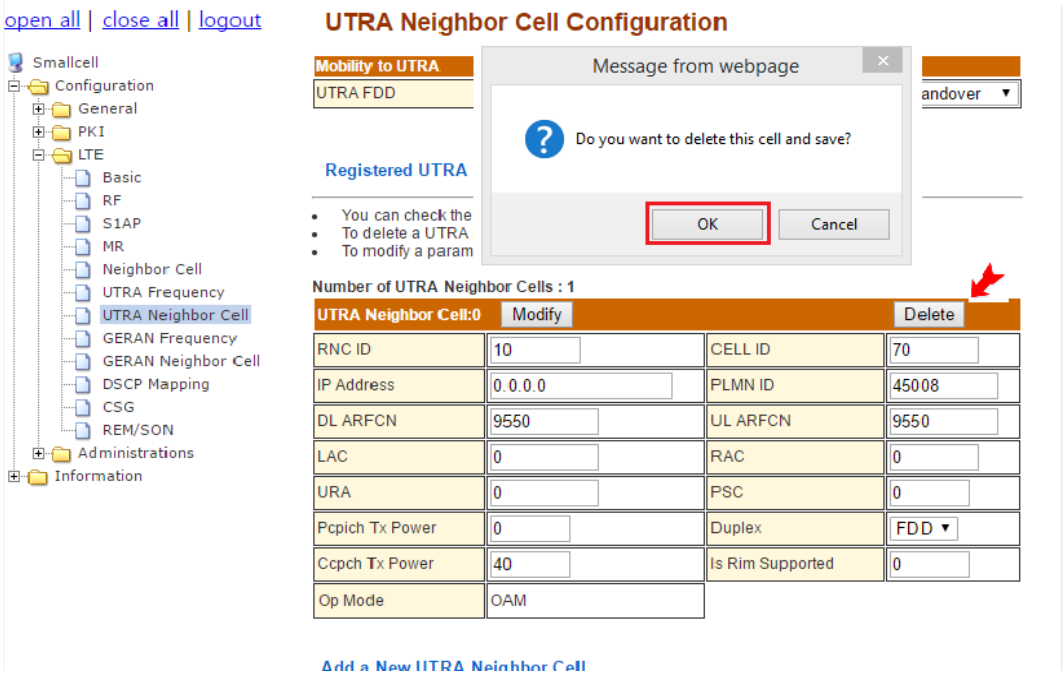


Figure 54: Modify Confirmation Window

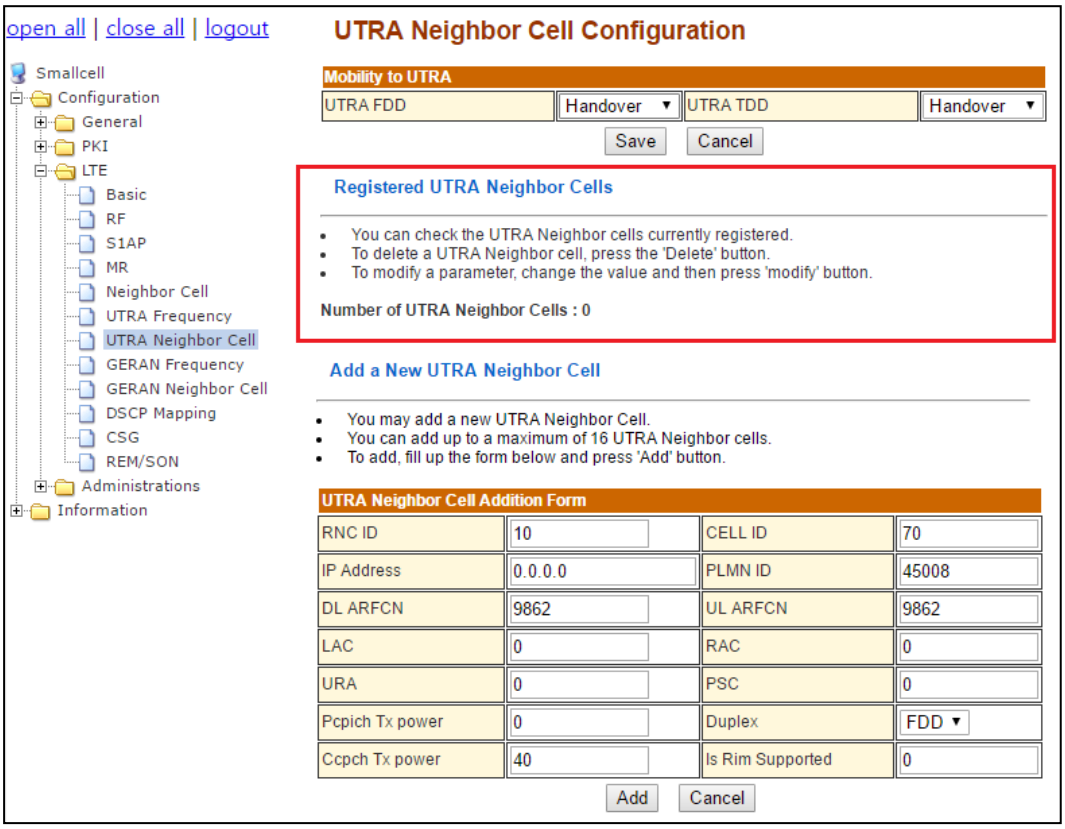


Figure 55: Result of Registed UTRA Neighbor Cell Deletion

6.2.3.8 GERAN Frequency

From the tree menu, select GERAN Frequency to move onto the GERAN Frequency setup page. You can add a GERAN Frequency and delete a registered GERAN Frequency. If inter-RAT Handover to GERAN is required, please choose Handover in Mobility to GERAN. Please refer to Table 17 for detailed input parameter information.

Menu	Description
Mobility to GERAN	
GERAN	Select **Handover** or **Redirection** for GERAN.
GERAN Frequency Form	
Starting ARFCN	Insert Starting ARFCN of GERAN Frequency (Range: 0 - 1023).
PCS 1900	Select the type of band.
Cell Reselection Priority	Insert Starting ARFCN of GERAN Frequency.
Thresh X high	Insert Thresh X high of GERAN Frequency.
Thresh X low	Insert Thresh X low of GERAN Frequency.
Qrxlevmin	Insert Qrxlevmin of GERAN Frequency.
Pmax GERAN	Insert Pmax GERAN of GERAN Frequency.
CSFB	Select type of CSFB.
Offset Frequency	Insert Offset Frequency of GERAN Frequency.
NCC Permitted	Insert NCC Permitted of GERAN Frequency.
No. of Explicit arfcn	You can select the number of explicit arfcn.
Explicit ARFCN 1 - 16	Insert Explicit ARFCN of GERAN Frequency (Range: 0 - 1023).

Table 17: Description of GERAN Frequency Parameter

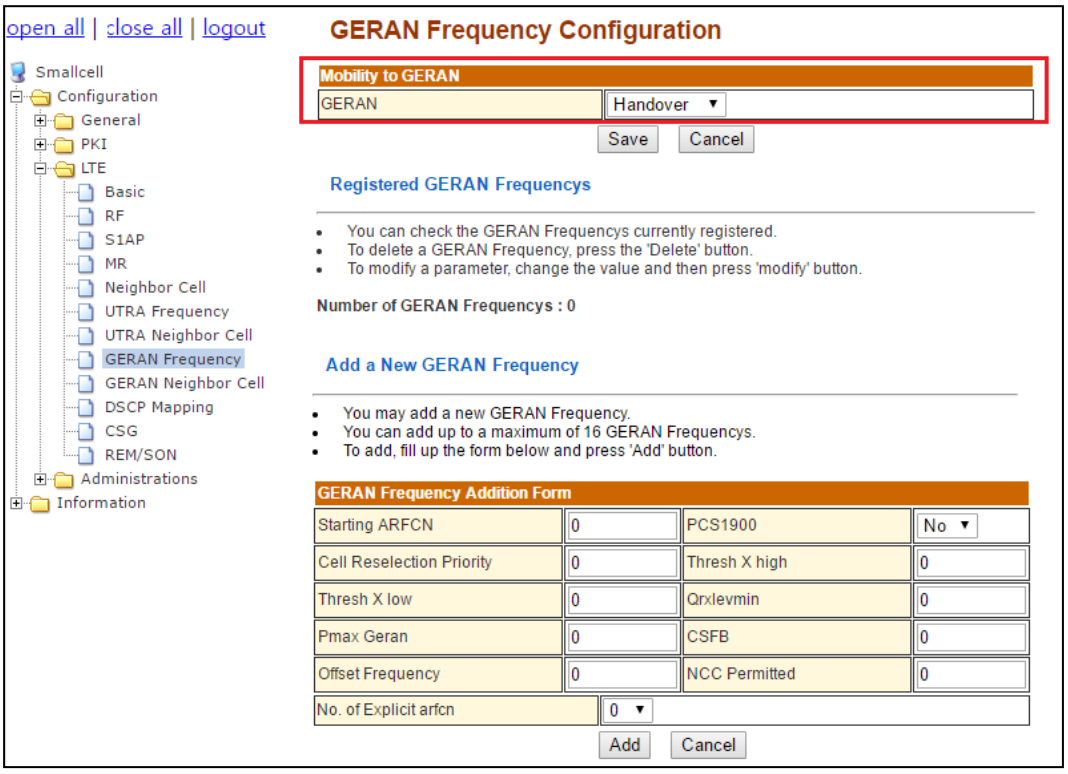


Figure 56: Mobility to GERAN setup on GERAN Frequency menu

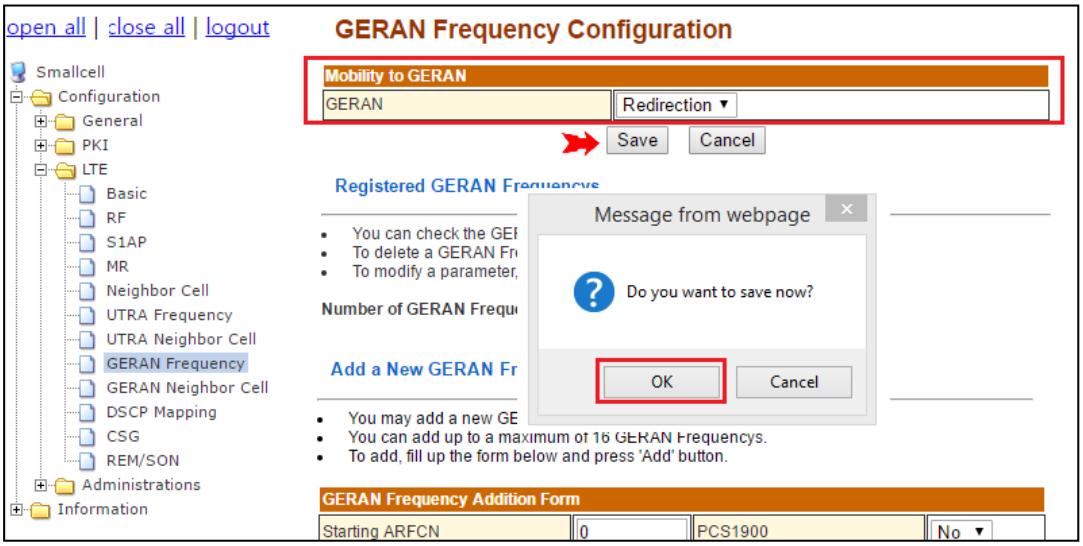


Figure 57: Mobility to GERAN setting and confirmation on GERAN Frequency menu

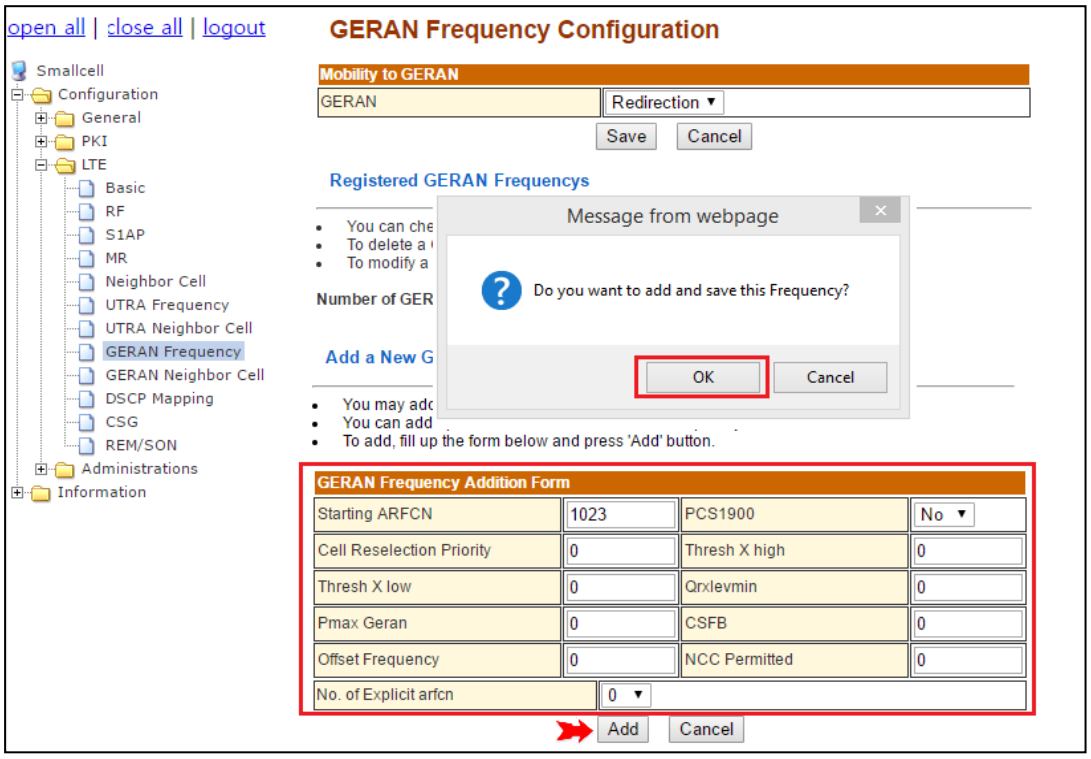


Figure 58: Add GERAN Frequency and confirmation window

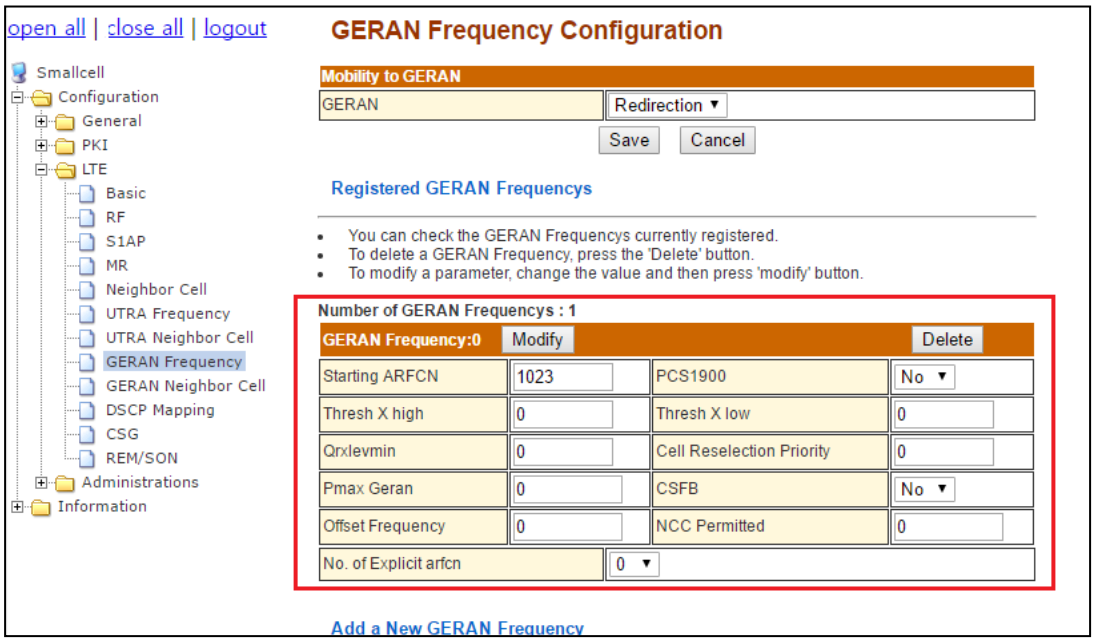


Figure 59: New GERAN Frequency registered

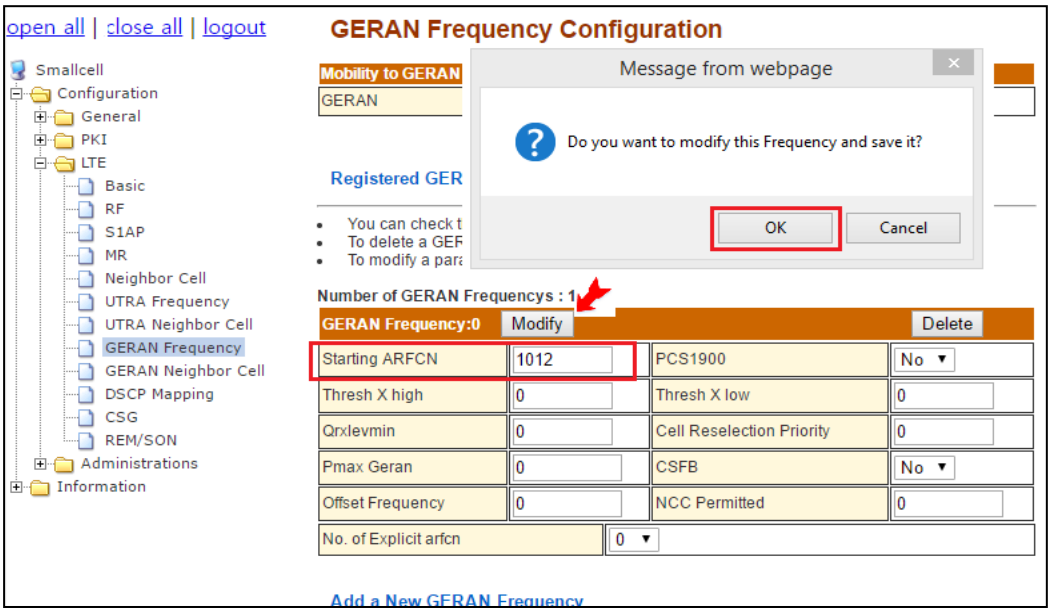


Figure 60: Modify GERAN Frequency and confirmation window

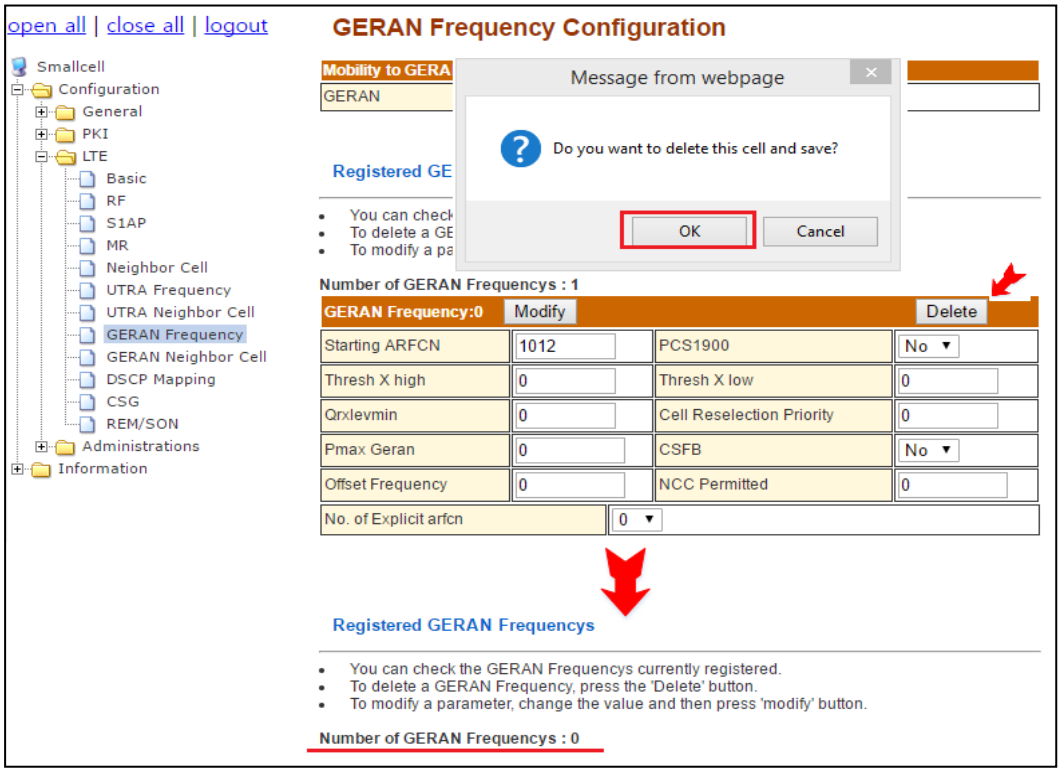


Figure 61: Delete GERAN Frequency

6.2.3.9 GERAN Neighbor Cell

From the tree menu, select GERAN Neighbor Cell to move onto the GERAN Neighbor Cell setup page. You can Add GERAN Neighbor Cell and modify/delete registered GERAN Neighbor Cell. Inter-RAT Handover to GERAN Neighbor Cell is required, please choose Handover in Mobility to UTRA. Please refer to Table 18 for detailed input parameter information.

Menu	Description
Mobility to GERAN	
GERAN	Select **Handover** or **Redirection** for GERAN.
GERAN Neighbor Cell Form	
PLMN ID	Insert PLMN ID of GERAN Neighbor Cell.
LAC	Insert LAC of GERAN Neighbor Cell.
RAC	Insert RAC of GERAN Neighbor Cell.
BSIC	Insert BSIC of GERAN Neighbor Cell.
CI	Insert CI of GERAN Neighbor Cell.
PCS 1900	Select the type of band.
BCCHARFCN	Insert BCCHARFCN of GERAN Neighbor Cell (Range: 0 - 1023). (This must be the frequency value included within GERAN Frequency under GERAN Frequency menu.)
NCC Permitted Meas	Insert NCC Permitted Meas of GERAN Neighbor Cell.
NCO Val	Insert NCO Val of GERAN Neighbor Cell.
Is DTM Capable	Insert Is DTM Capable of GERAN Neighbor Cell.
Is RIM Supported	Insert Is RIM Supported of GERAN Neighbor Cell.

Table 18: Description of GERAN Neighbor Cell Parameter

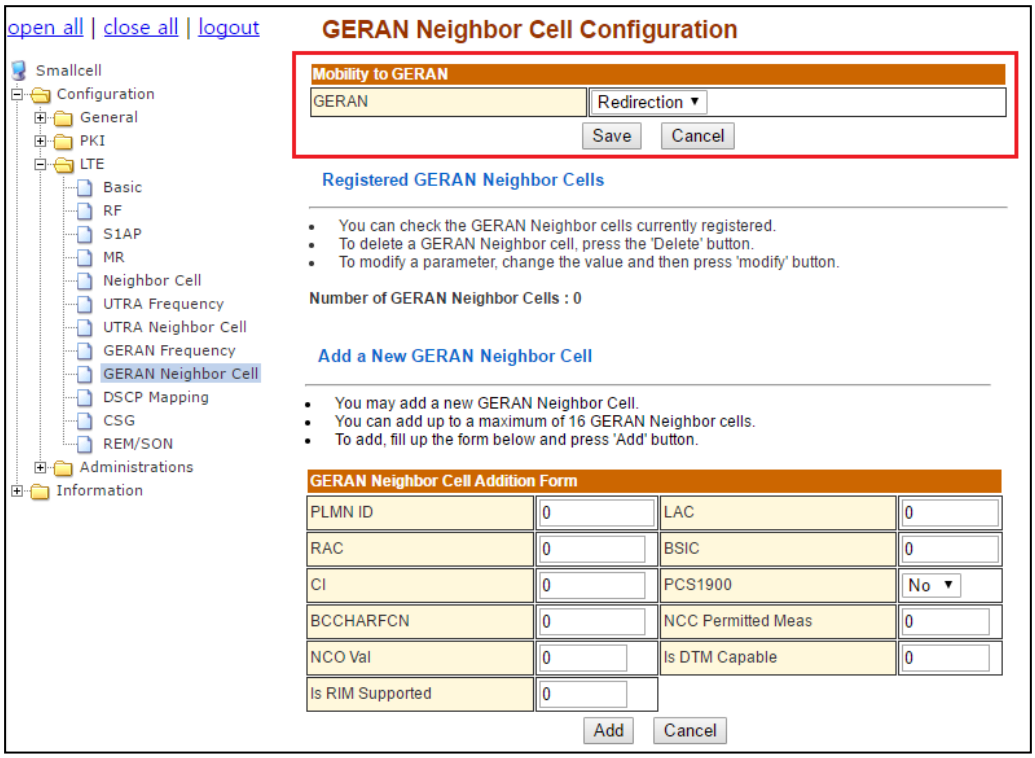


Figure 62: Mobility to GERAN setup menu

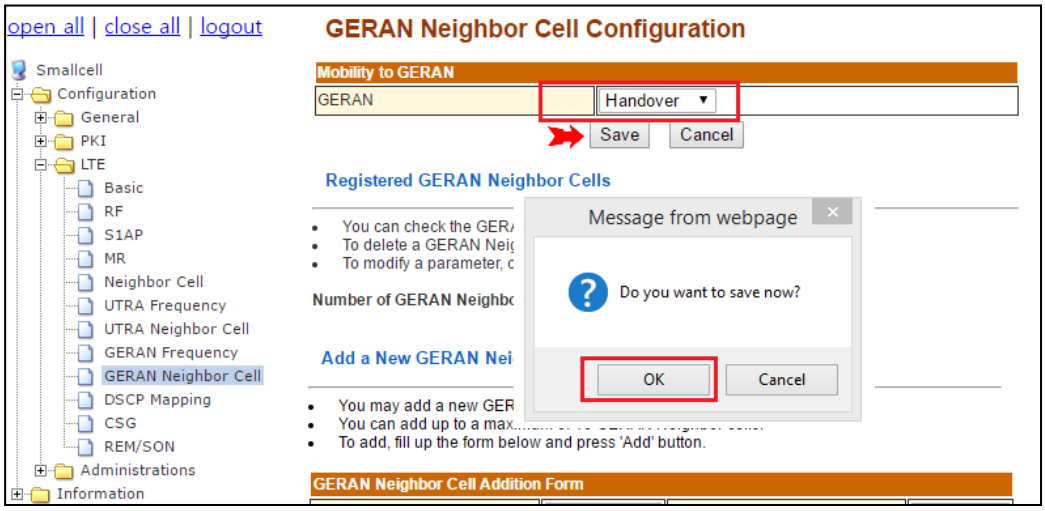


Figure 63: Mobility to GERAN setting and confirmation window

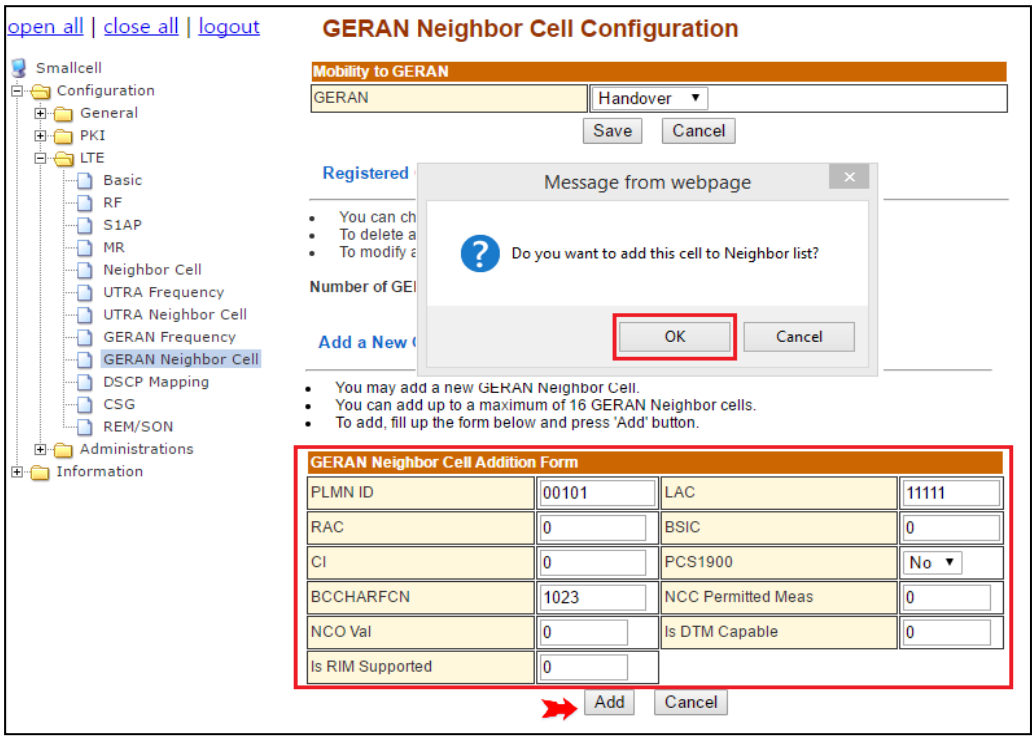


Figure 64: Add GERAN Neighbor Cell and confirmation window

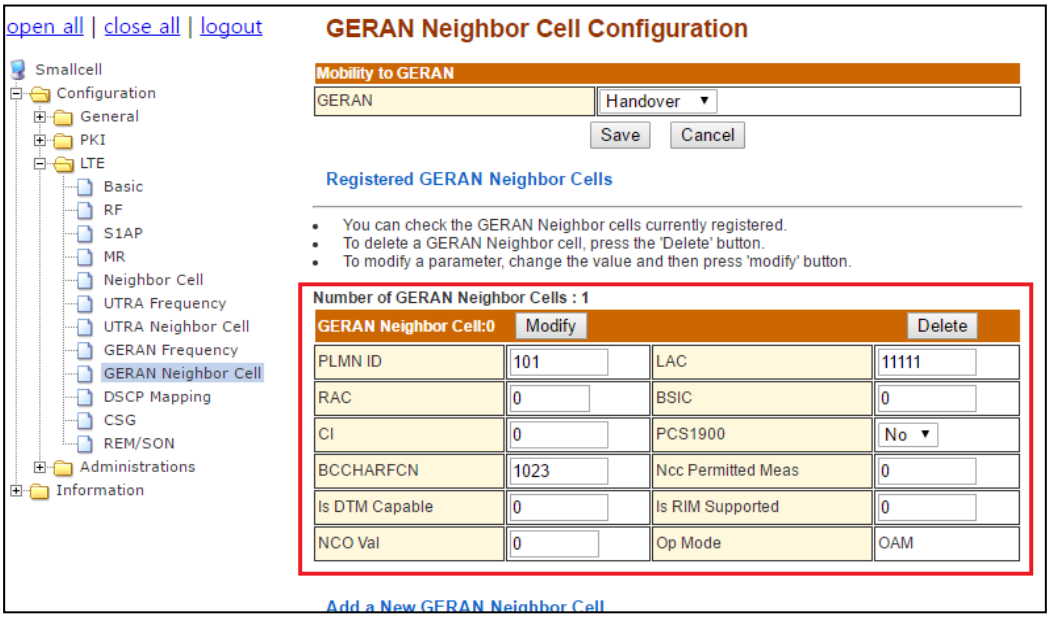


Figure 65: GERAN Neighbor Cell registered

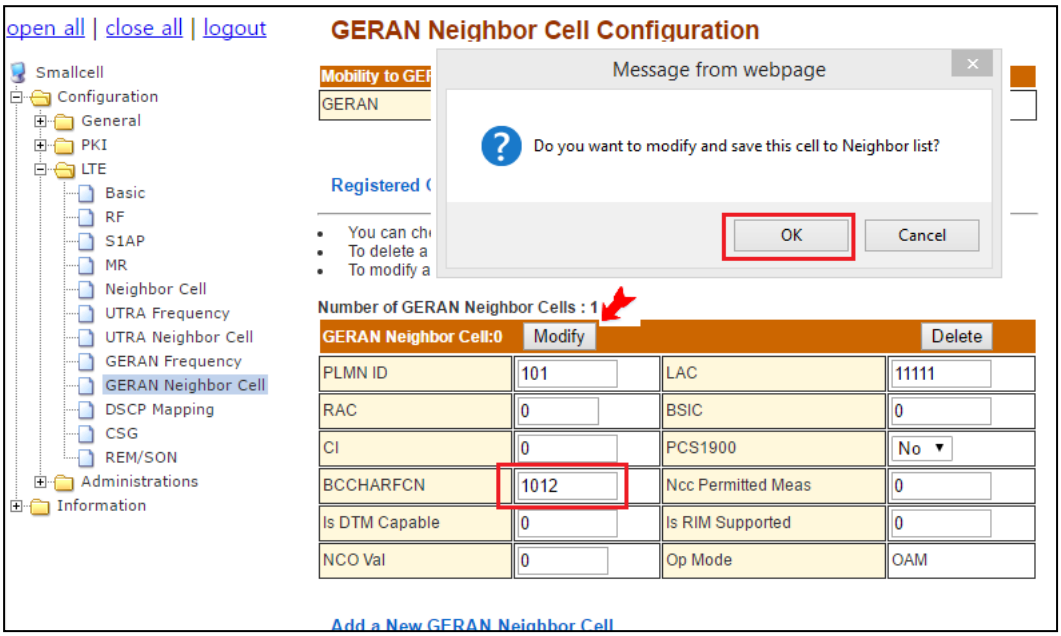


Figure 66: Modify GERAN Neighbor Cell and confirmation window

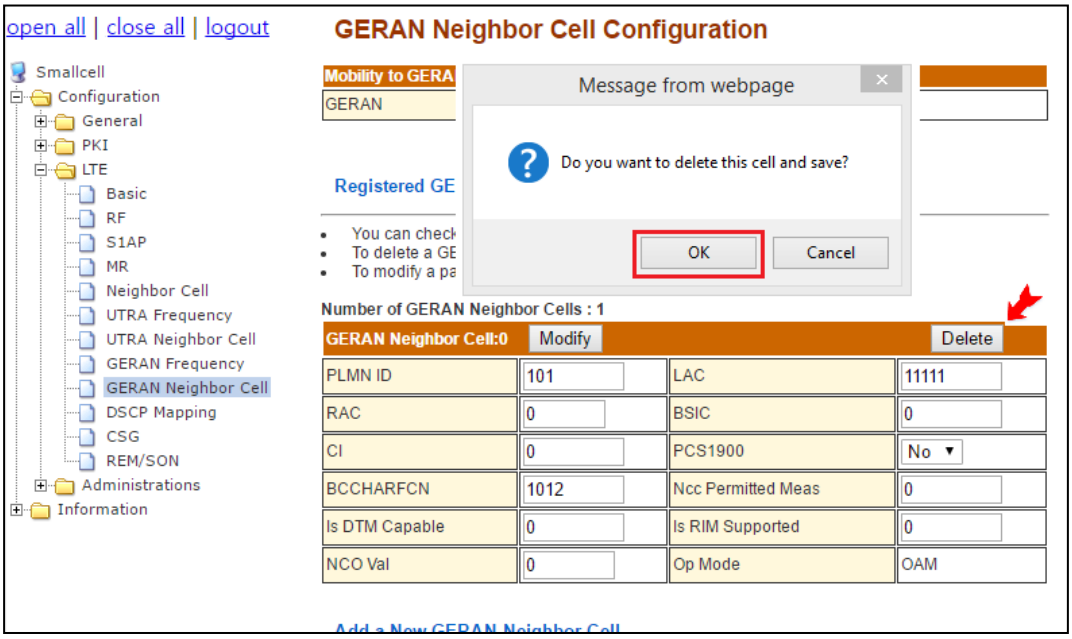


Figure 67: Delete GERAN Neighbor Cell and confirmation window

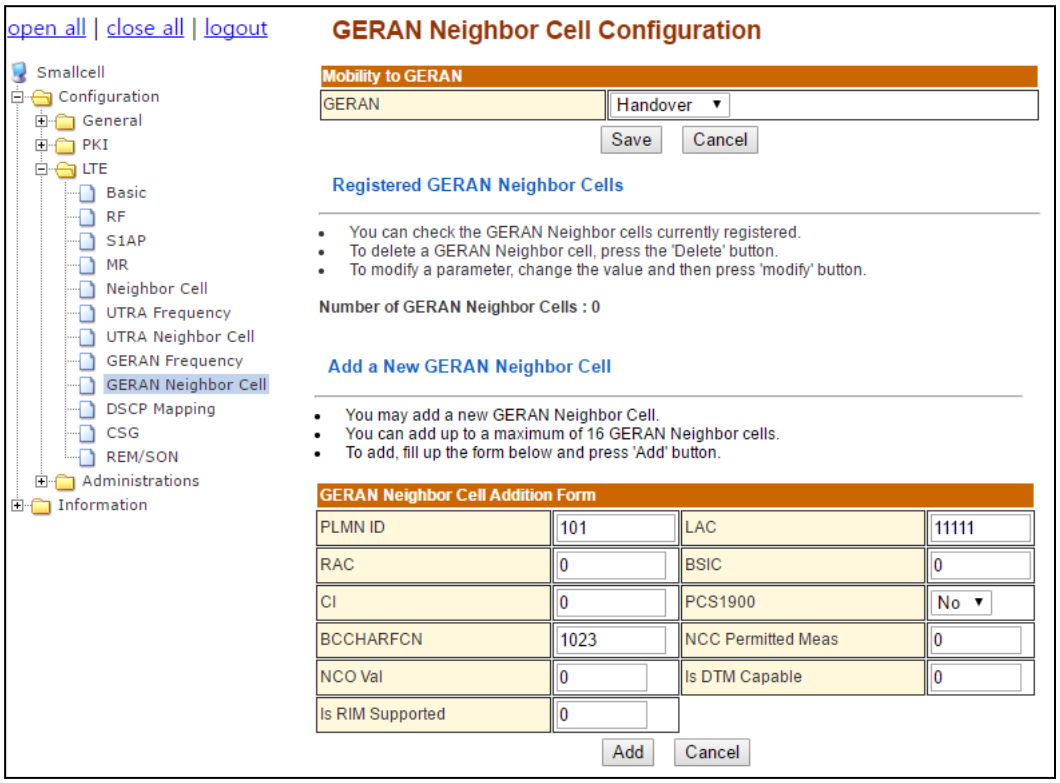


Figure 68: Result of GERAN Neighbor Cell Deletion

6.2.3.10 DSCP Mapping

From the tree menu, select DSCP Mapping to move onto the DSCP Mapping setup page. Insert the number of DSCP Mapping (0 - 63) and click the Save button then fields will be displayed.

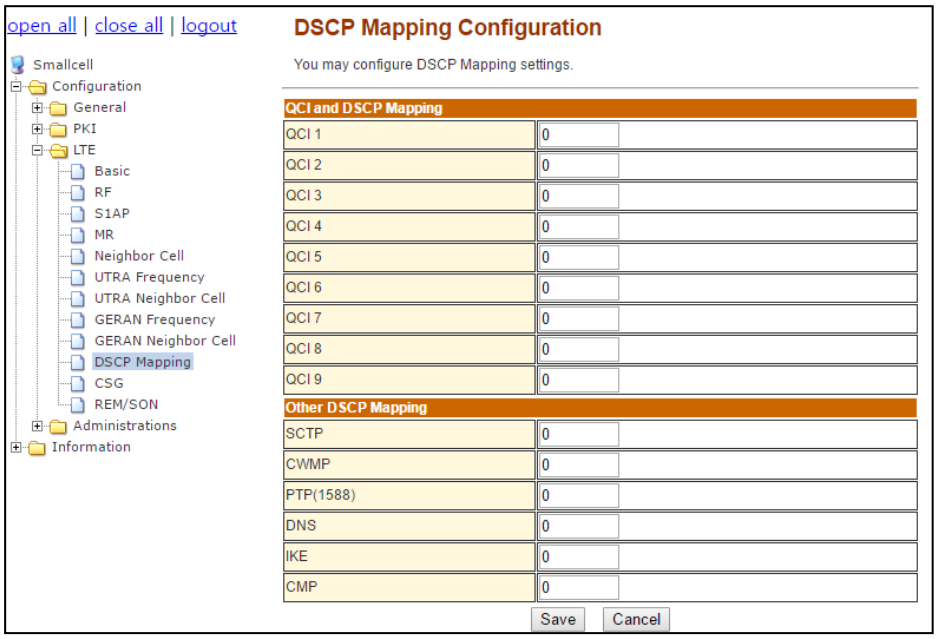


Figure 69: DSCP Mapping Configuration

6.2.3.11 CSG

From the tree menu, select CSG Setup to move onto the CSG Setup page. Insert the CSG configured and click the Save button then fields will be displayed.

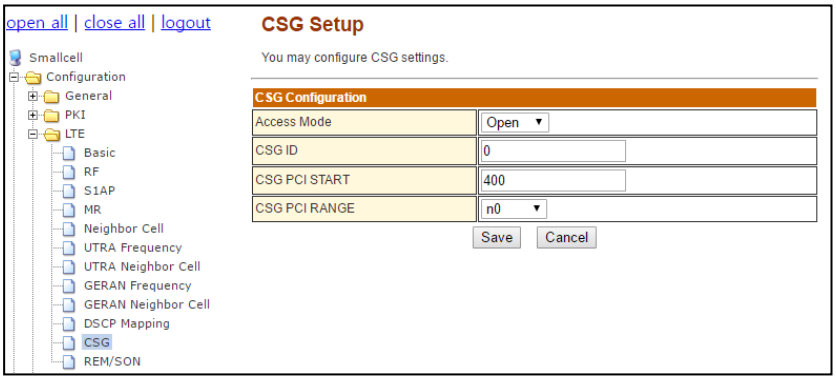


Figure 70: CSG Setup

6.2.3.12 REM/SON

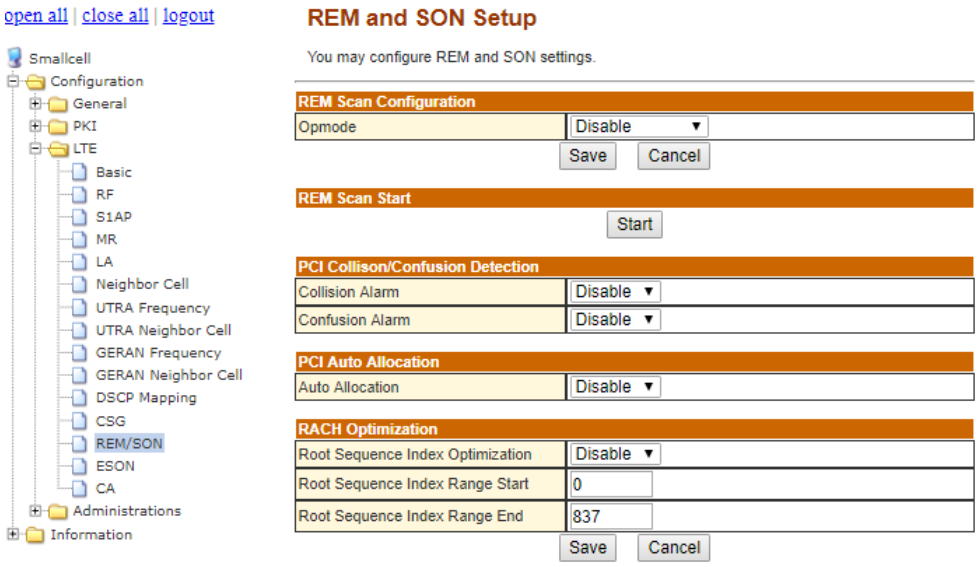


Figure 71: **REM / SON Setup**

From the tree menu, select REM/SON to move onto the REM and SON Setup page as shown in Figure 71. There are four different functional sections related to REM and SON.

In REM Scan Configuration box, you can select REM Scan by selecting 'Scan On Boot' at Opmode of 'REM Scan Configuration' section. In this case, DL earfcn values should be provided at DL EARFCNs to be scanned. The list of DL earfcn values can be added followed by comma. (Comma separated). If you select 'Add to Neighbor Table' option 'Enable', the REM scanned cells are added/updated to ANR. If it is disabled, the scanned cell information is only stored inner database for REM and isn't applied to the ANR. Click the 'Save' button to apply all the setting you made so far. The saved setting will be applied when the small cell is rebooted. If you don't want to have REM scan option, you can make Opmode 'Disable'. In this case, you can also click 'Save' button to apply your change.

In PCI Collision/Confusion Detection box, you can select Collision Alarm and Confusion Alarm by selecting each option 'Enable' individually.

In PCI Auto Allocation box, it provides PCI auto allocation function. When it is enabled by selecting 'Enable' at 'Auto Allocation', the PCI Auto Allocation function provides the best PCI among the provided PCIs from 'Available PCI List' automatically. The PCI allocation algorithm selects the best PCI for avoiding PCI collision /confusion and maximizing the PCI reuse distance and reducing the interference of UL channel estimation. The 'Available PCI List' should be provided for the 'Auto Allocation' is 'Enable'. The values are comma separated.

In RACH Optimization box, it provides the best Root Sequence Index by the RACH Optimization algorithm. The RACH optimization algorithm offers the best possible unique root sequence to reduce the ghost preamble detection problem. In this case, you should insert Root sequence Index Range on 'Root Sequence Index Range Start' and 'Root Sequence Index Range End' with first and the last numbers of the range. The number should be in between 1 and 837.

6.2.3.13 ESON

From the tree menu, select ESON to move onto the ESON Setup page for configuring enable/disable of ESON function. There are three different functional sections related to ESON.

In PCI Configuration box, it provides PCI auto allocation function.

In MRO Configuration box, it provides Mobility Robustness Optimization function.

In MLB Configuration box, it provides Mobility Load Balance function.

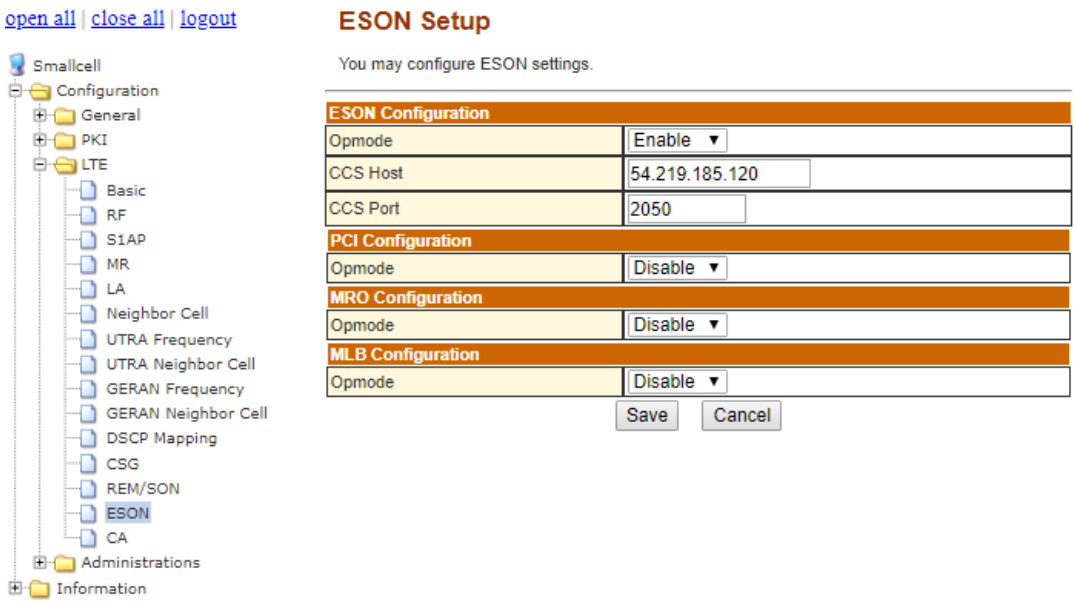


Figure 72: ESON Setup

6.2.4 Administrations Menu

6.2.4.1 Settings

By clicking Administrations-Settings in the left tree menu, the Settings Management page will be displayed. If the save button is clicked, a pop-up window will be displayed for confirmation and the amended settings will be saved as shown in the Figure 73 and Figure 74. Click the OK button to close the window.

After changing the configuration and saving it, the amended setting will be saved in the Configuration file of Small Cell. The setting values will remain as what has been changed even after the reboot.

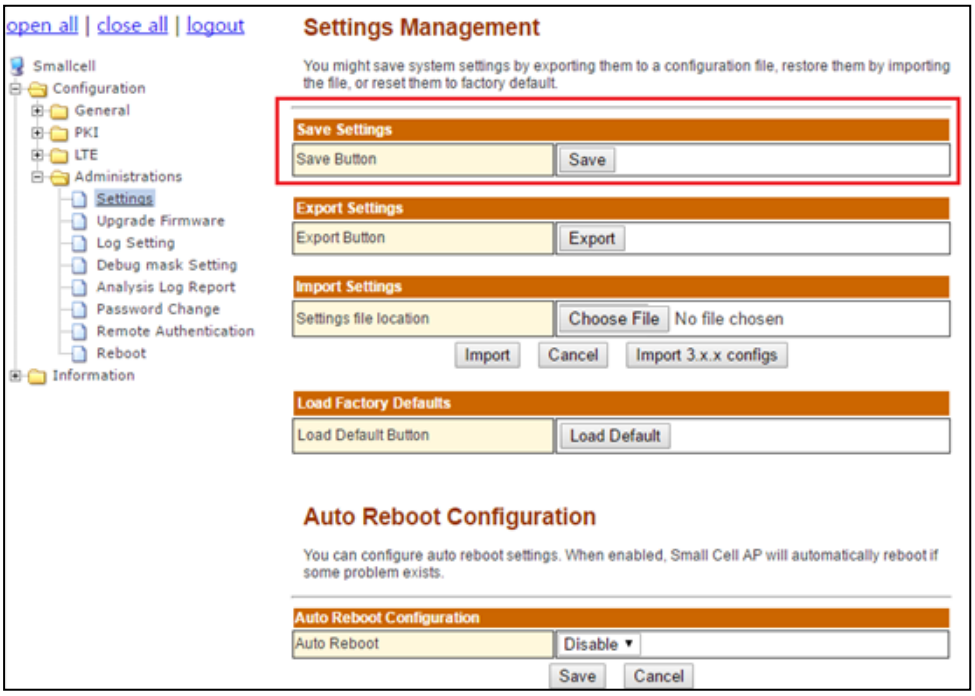


Figure 73: Save Settings

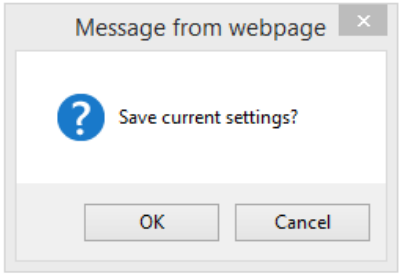


Figure 74: Save Confirmation Window

As shown in the Figure 75, the user can download the configuration file of Small Cell to its own PC.

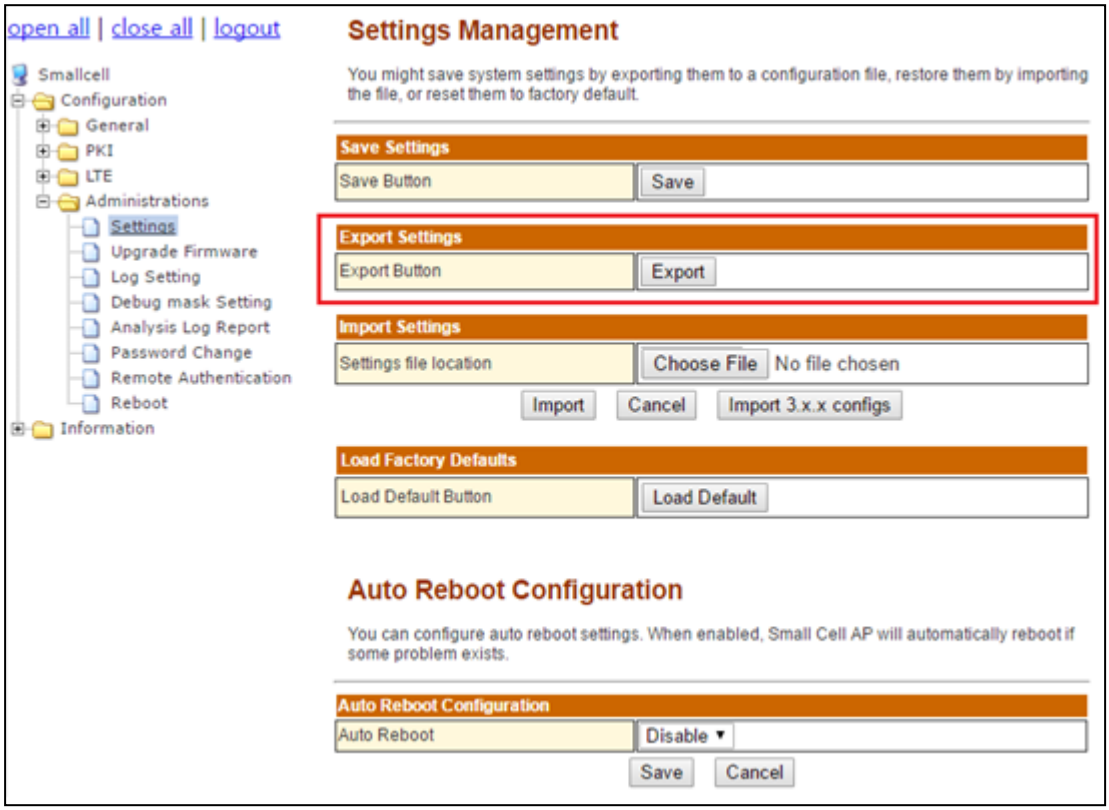


Figure 75: Export Configuration File

The exported configuration file can also be imported back into Small Cell.

Click the “Browse” button on the “Import Settings” box then select the configuration file as shown in Figure 76 and Figure 77. When the file is imported to Small Cell, the settings will be overwritten over the existing configuration file. The Small Cell already has its configuration parameters overwritten when importing process is done. In the case clicking ‘SAVE’ button has no impact at all. When Small Cell is rebooted after importing a new configuration file, it starts operating with newly imported configuration file.

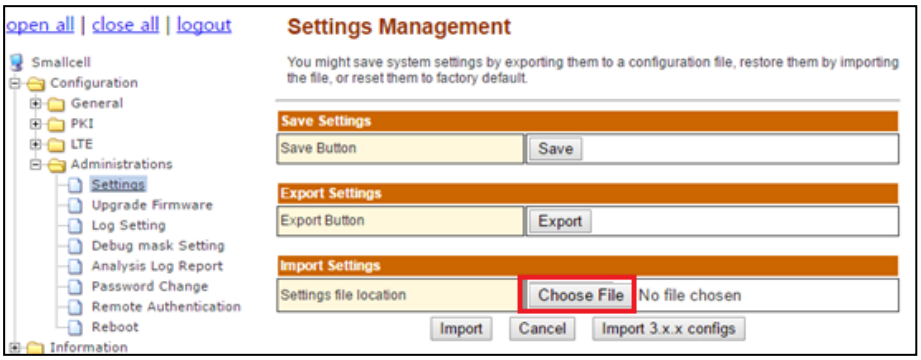


Figure 76: Import Configuration

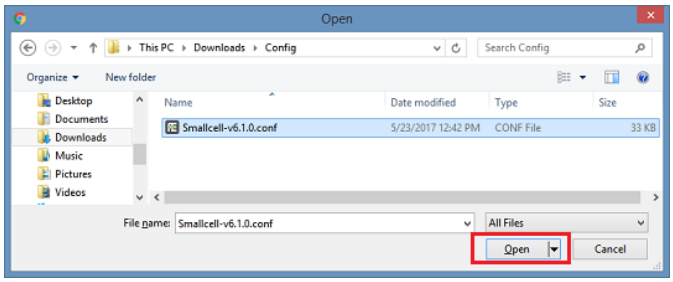


Figure 77: Browsing Window for Importing Configuration File

When any invalid parameter or any out-of-range value is imported in the Configuration File, the following error pop-up window will be displayed.

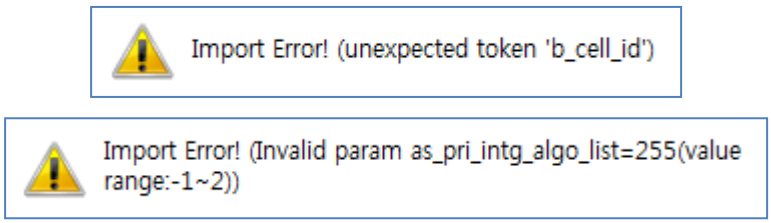


Figure 78: Import Error Message

Also, the automatic reboot function can be set on Auto Reboot Configuration page. When Auto Reboot is enabled, Small Cell will reboot automatically if there is a problem with the operation.

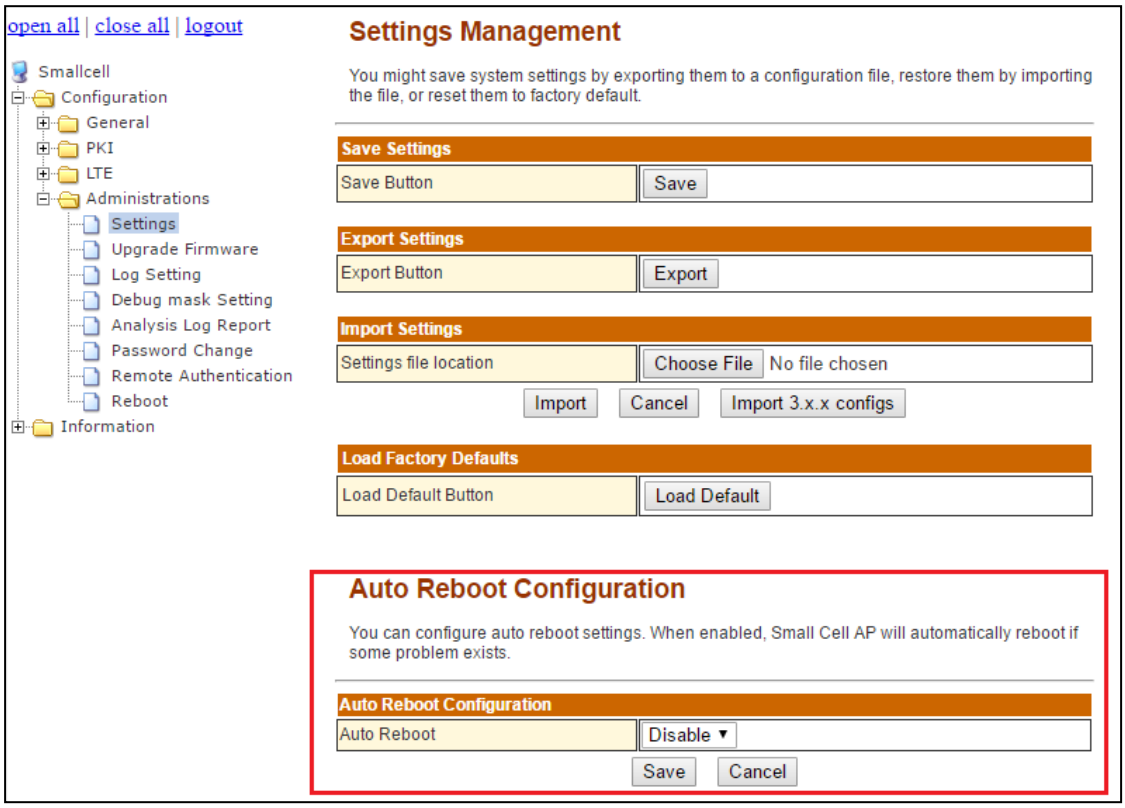


Figure 79: Auto Reboot Configuration

6.2.4.2 Upgrade Firmware

From the tree menu, select Upgrade Firmware to move onto the Upgrade Firmware page as shown in Figure 80. Click Browse and select a Small Cell firmware file which has the **.**tar file extension. By clicking Apply button, the software will be downloaded to Small Cell and rebooted after the upgrade as shown in Figure 80 and Figure 81. Meanwhile, there will be upgrade and reboot notification on the screen as capture in Figure 82. After the reboot, Web GUI can be accessed again through IP address 10.0.0.1 or the new WAN IP address.

Figure 80: Firmware Upgrade Menu

Figure 81: Screen after Selecting the New Firmware

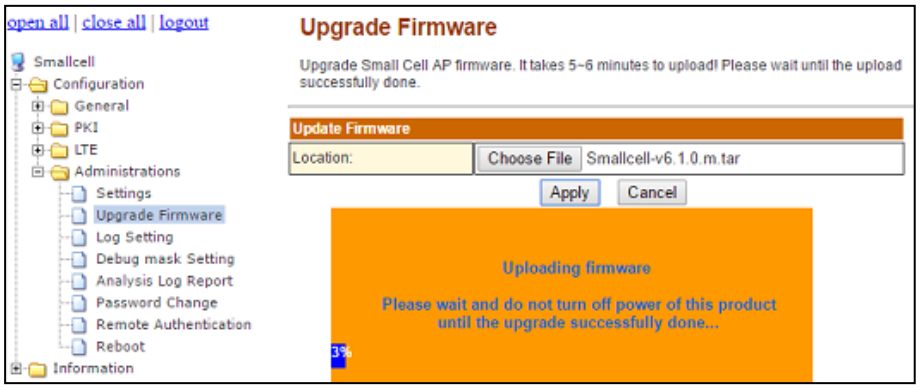


Figure 82: Notification Screen during Firmware Upgrade Process

6.2.4.3 Log Setting

From the tree menu, select Log Setting to move onto the Log Setting page as shown in Figure 83.

In this page, Log can be gathered by Log level and downloaded. The Log will be applied after clicking the Apply button. Please refer to

Table **19** for detailed input parameter information.

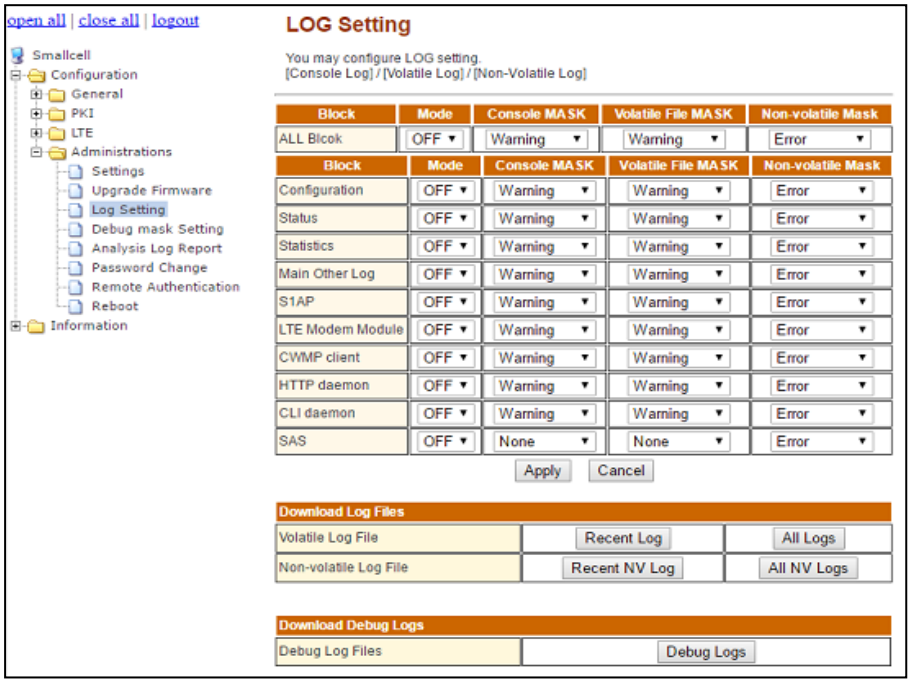


Figure 83: Log Setting

Menu	Description
Mode	Log ON/OFF for Console Mask.
Console Mask	Select log level to be displayed on the console window of the locally connected control computer.
Volatile File Mask	Select log level for the volatile logs to be saved in the vmlog files.
Non-volatile Mask	Select log level for the non-volatile logs to be saved in the nvlog files.
Volatile Log File	Download vmlog files
Non-Volatile Log File	Download nvlog files

Table 19: Description of Log Setting

6.2.4.4 Debug Mask Setting

From the tree menu, select Debug Mask Setting to move onto Debug mask Setting page as shown in Figure 84. In this page, Debug Mask Setting can be set by hexa code.

After changing Debug Mask Setting and click Apply, the new configuration takes effect immediately.

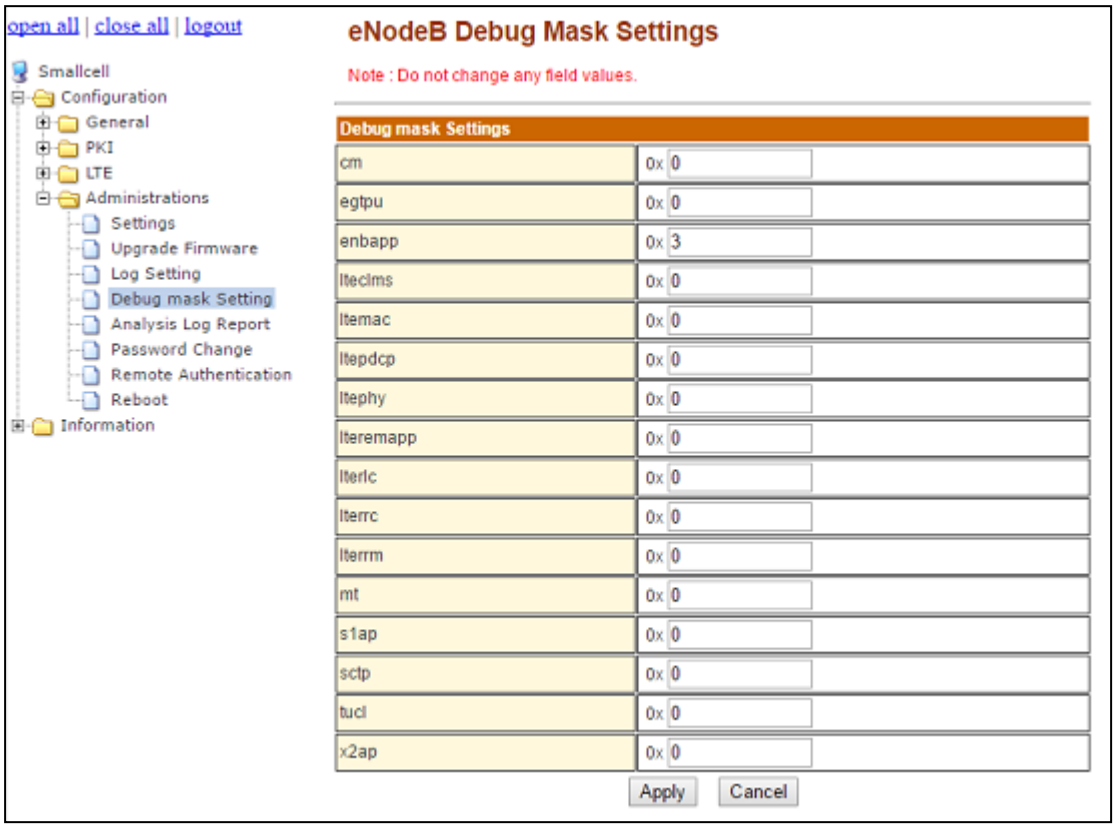


Figure 84: eNodeB Debug Mask Settings

6.2.4.5 Analysis Log Report & Password Change

From the tree menu, select Analysis Log Report to move onto Analysis Log Report page as shown in the Figure 85 below.

When Analysis Log Report is enabled, the Small Cell will to transfer the log of Small Cell to the specified server automatically if there is a problem with the operation.

From the tree menu, select Password Change to move onto the Password Change page as shown in Figure 85. It needs to Web GUI log in.

Password should contain at least 3 types of Lowercase, Uppercase, Special character and Number. This password format may require modification in accordance with the security policy of the service operator. The password change is only for the Web GUI of Small Cell and is not related to any other account to connect to Small Cell.

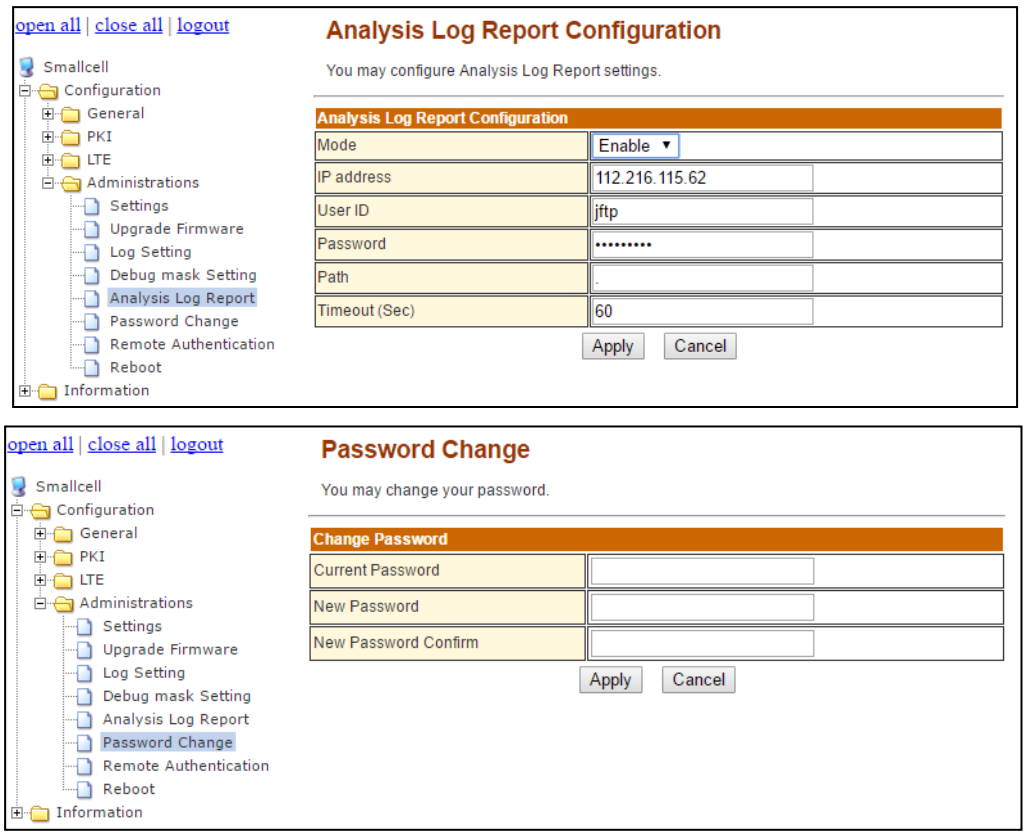


Figure 85: Analysis Log Report & Password Change

6.2.4.6 Remote Authentication

From the tree menu, select Remote Authentication to move onto the Remote Authentication page as shown in Figure 86

In this page, the remote authentication capability can be enabled or disabled. If the remote authentication is enabled, the remote users can log in to Small Cell by the authentication performed by the authentication server. The ‘server IP address’, ‘Port’ and ‘Shared secret’ should be configured correctly in accordance with the remote RADIUS server configuration.

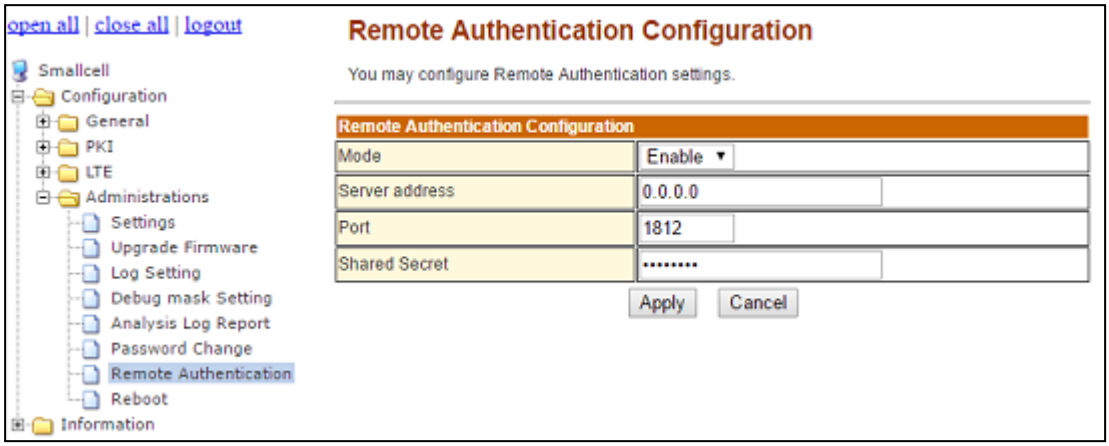


Figure 86: Remote Authentication Configuration

6.2.4.7 Reboot

To reboot the system, select Administrations-Reboot in the tree menu. It will display the Reboot button as shown in Figure 87. After clicking the Reboot button, it will display Reboot Confirmation Pop-up window and click OK button to reboot.

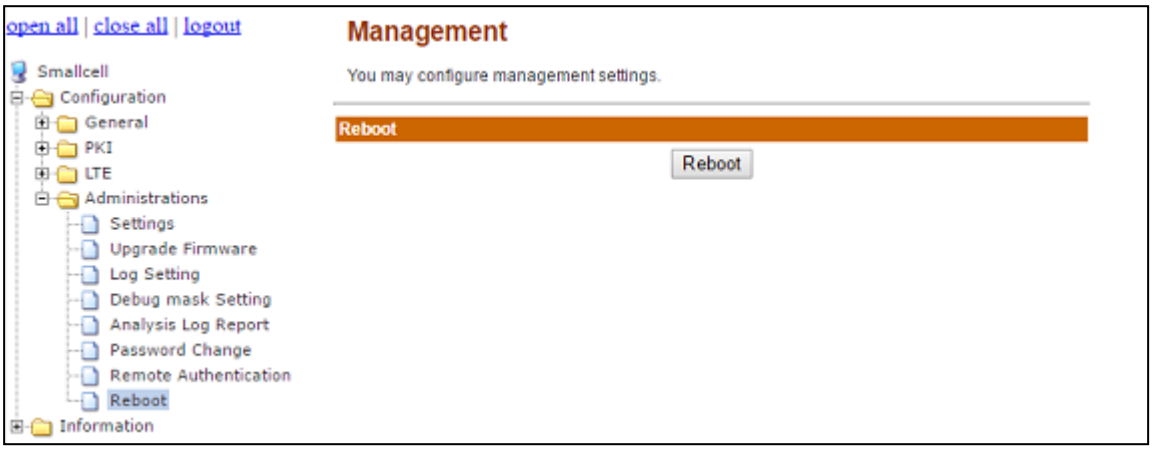


Figure 87: Reboot Menu

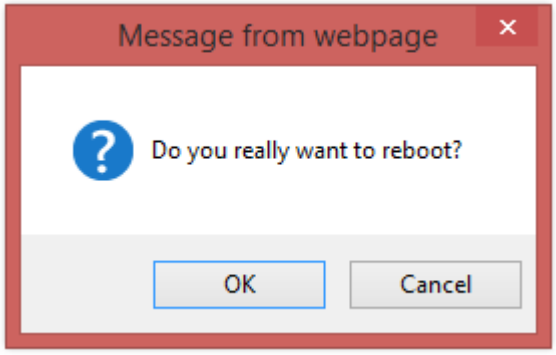


Figure 88: Reboot Confirmation Window

6.3 Information Menu

6.3.1 Update Period

From the tree menu, select Update Period to move onto the Update Period page as shown in Figure 89.
In this page, Device info, CPU/Memory, Process, S/W.H/W info, DHCP info, GPS info, IEEE1588 info, and LTE UE list can change update period.

After changing the update period and click Apply, the new configuration must be saved.

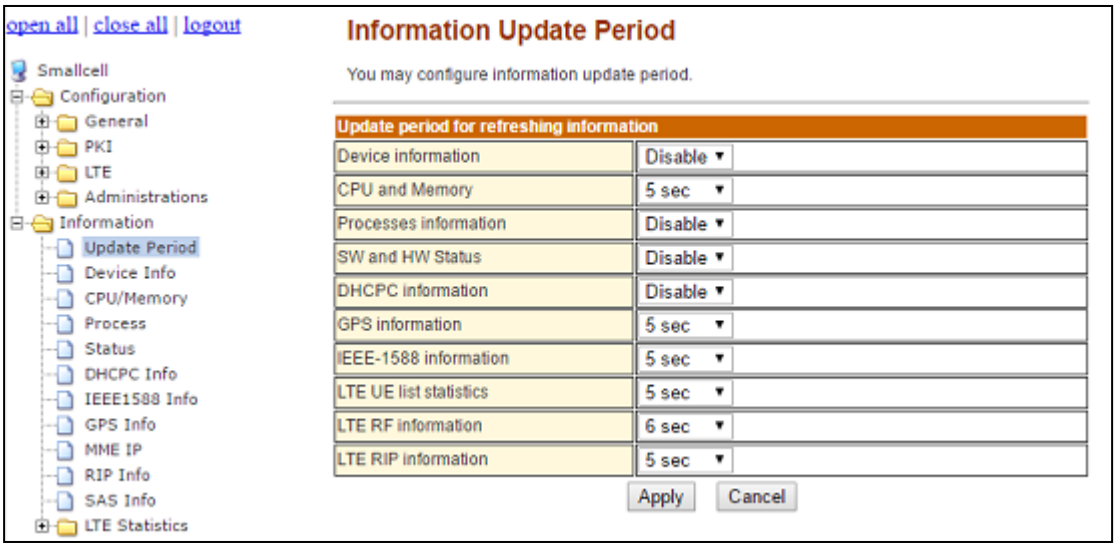


Figure 89: Update Period

6.3.2 Device Info

From the tree menu, select Device Info to move onto the Device Information page as shown in Figure 90.
In this page, MAC address, Model Name, Serial Number, SW version, Up-Time and Re-boot reason of the Small Cell are available.

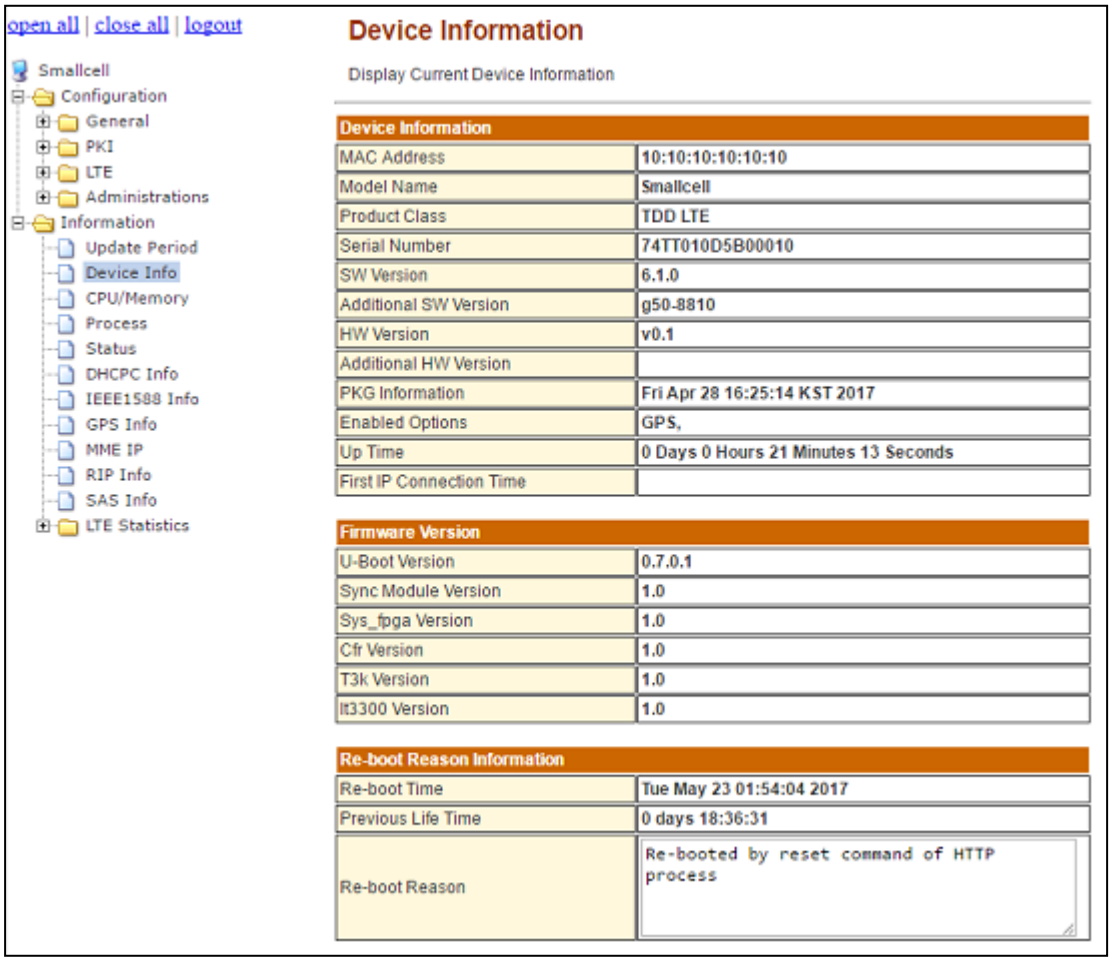


Figure 90: Device Information Menu

6.3.3 CPU/Memory

From the tree menu, select CPU/Memory to move onto the CPU/Memory Information page. In this page, CPU usage is calculated by average for three seconds. When CPU usage is displayed by update period, CPU average are displayed by cumulative average (previous CPU average and current CPU average). Memory usage is displayed by update period at moment.

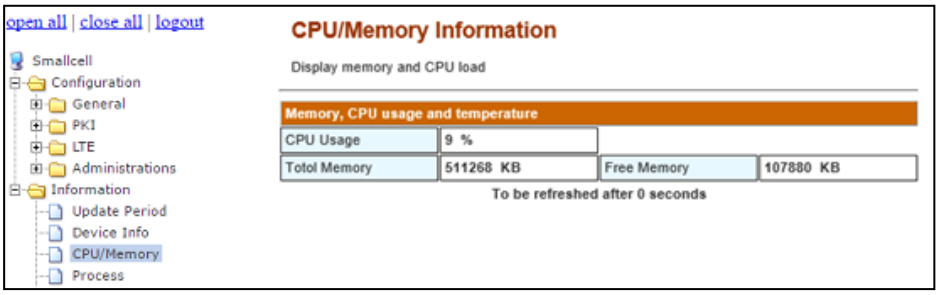
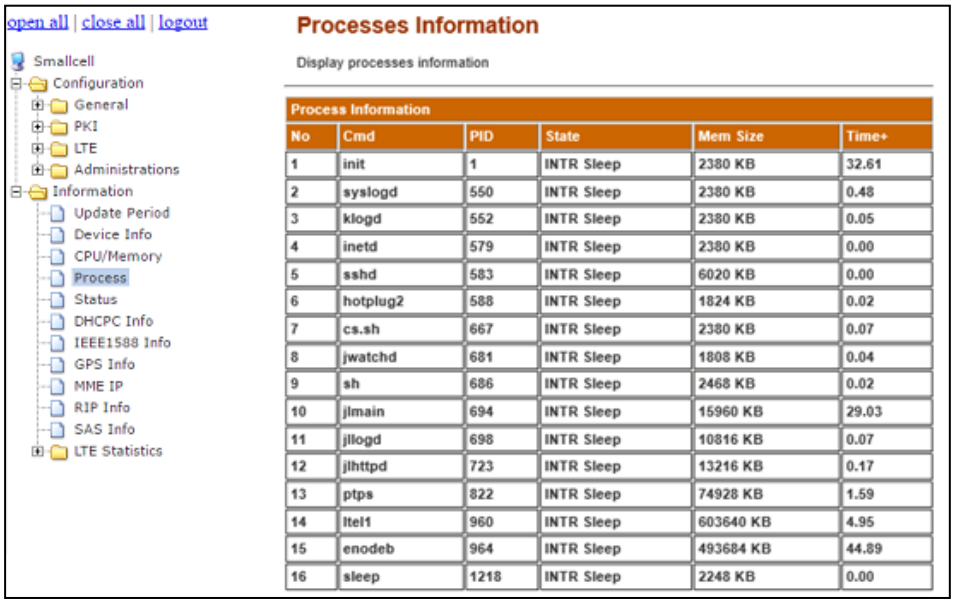


Figure 91: CPU/Memory Information

6.3.4 Process

From the tree menu, select Process to move onto the Process Information page. In this page, display process status in Figure 92.



No	Cmd	PID	State	Mem Size	Time+
1	init	1	INTR Sleep	2380 KB	32.61
2	syslogd	550	INTR Sleep	2380 KB	0.48
3	klogd	552	INTR Sleep	2380 KB	0.05
4	inetd	579	INTR Sleep	2380 KB	0.00
5	sshd	583	INTR Sleep	6020 KB	0.00
6	hotplug2	588	INTR Sleep	1824 KB	0.02
7	cs.sh	667	INTR Sleep	2380 KB	0.07
8	jwatchd	681	INTR Sleep	1808 KB	0.04
9	sh	686	INTR Sleep	2468 KB	0.02
10	jlmain	694	INTR Sleep	15960 KB	29.03
11	jllogd	698	INTR Sleep	10816 KB	0.07
12	jlhttpd	723	INTR Sleep	13216 KB	0.17
13	ptps	822	INTR Sleep	74928 KB	1.59
14	ltel1	960	INTR Sleep	603640 KB	4.95
15	enodeb	964	INTR Sleep	493684 KB	44.89
16	sleep	1218	INTR Sleep	2248 KB	0.00

Figure 92: Process Information

6.3.5 Status

From the tree menu, select Status to move onto the Status page which has Software and Hardware status information. As shown in Figure 93, SW and HW status are separated and the alarm status of each category is available.

The detailed description of the alarm will be displayed by clicking the Show button.

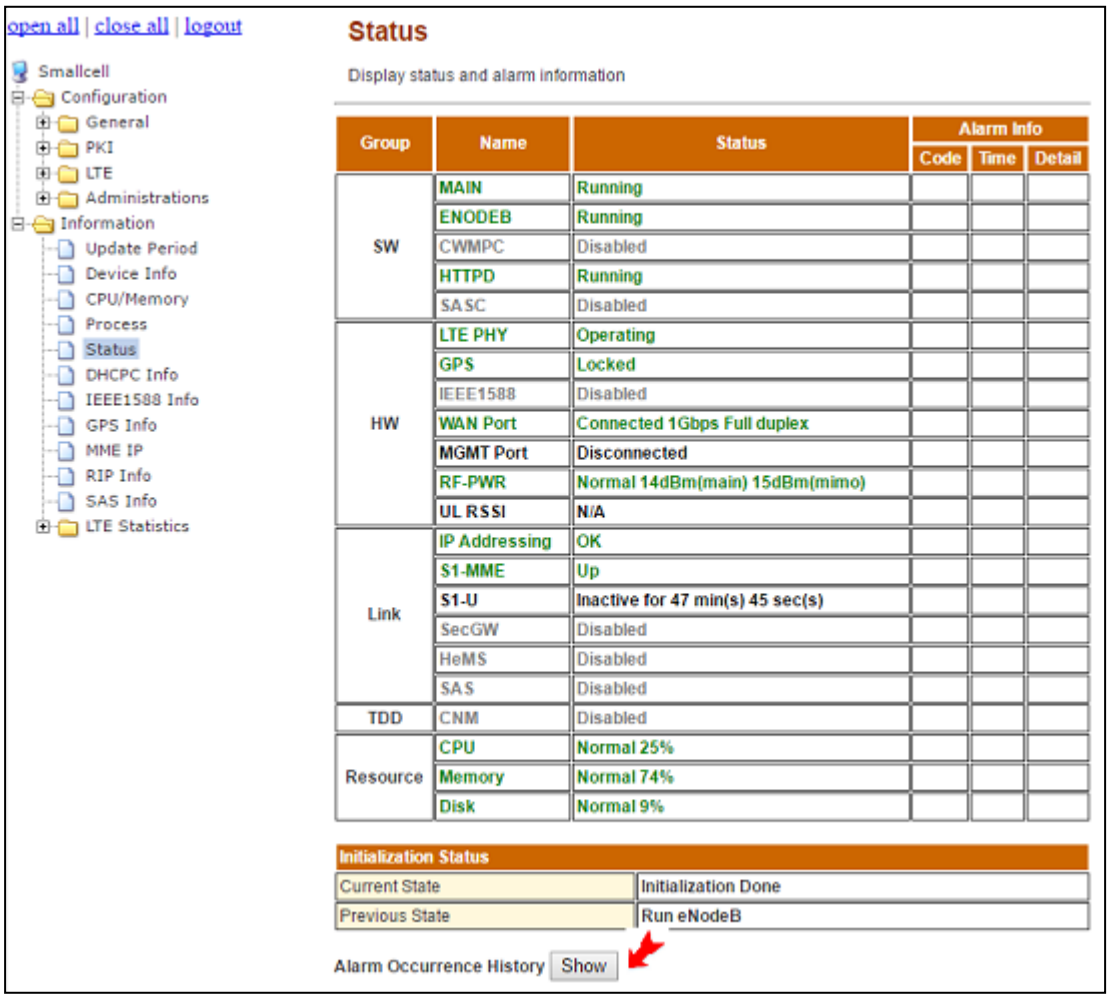


Figure 93: Software and Hardware Status Menu

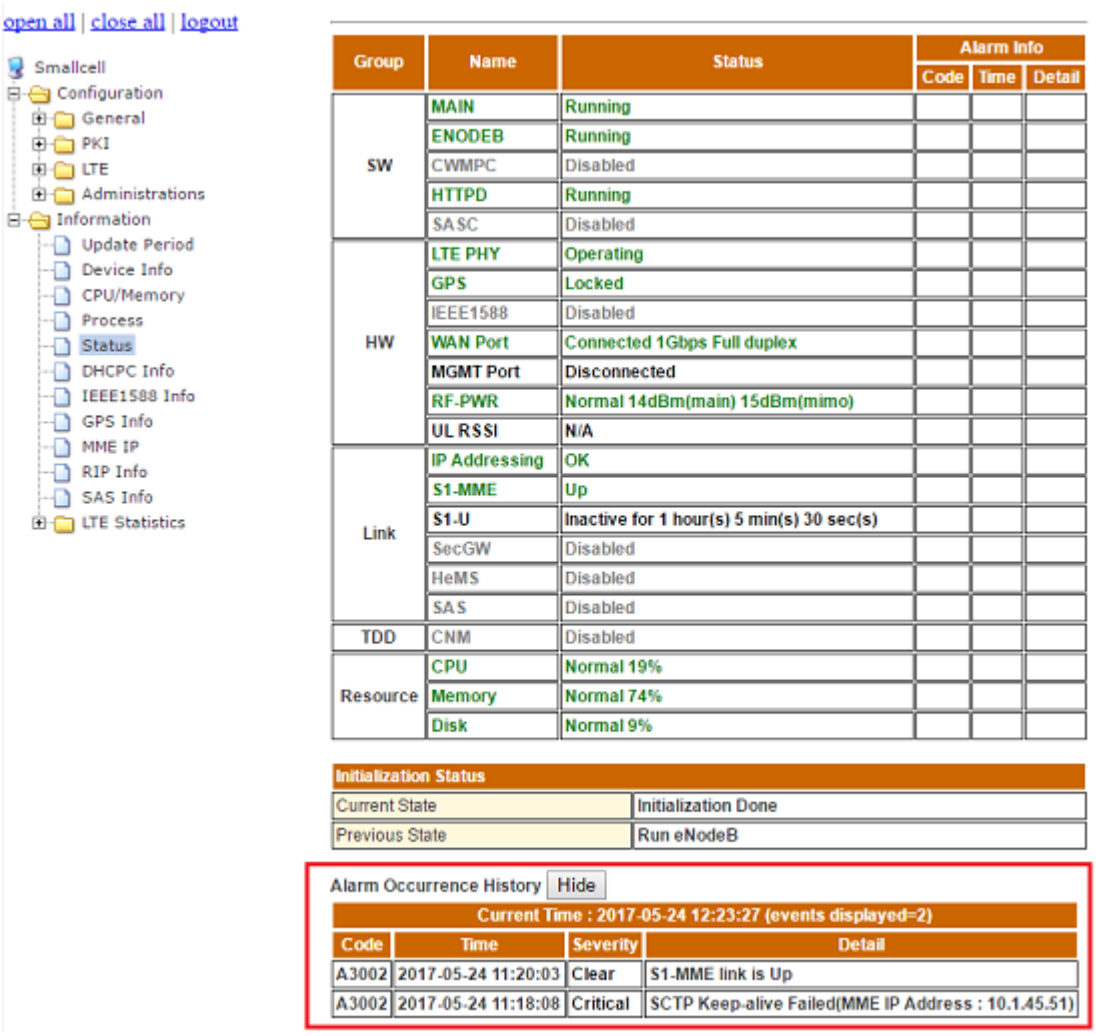


Figure 94: Alarm Occurrence History

6.3.6 DHCP Info

From the tree menu, select DHCPC Info to move onto the DHCP client page. If DHCP server has been configured disable, DHCP client is displayed disable DHCP. It must be set DHCP mode in 6.2.1.1 Network Interface page.

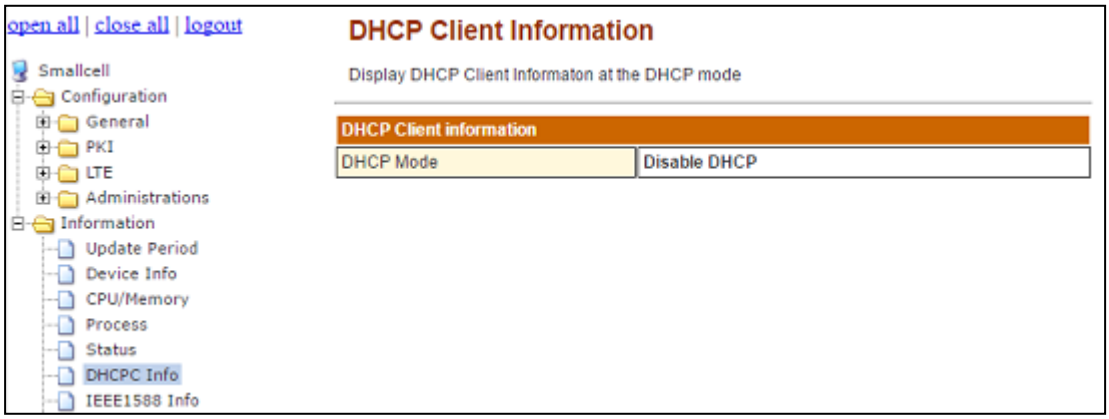


Figure 95: DHCP Client Info

6.3.7 IEEE1588 Info

From the tree menu, select IEEE1588 Info to move onto the IEEE1588 information page. In this page, display current status of IEEE1588. If IEEE1588 is set to disabled on the Clock sync & SYS time page, 'Not connected' will be displayed on the Connection of IEEE-1588 status.

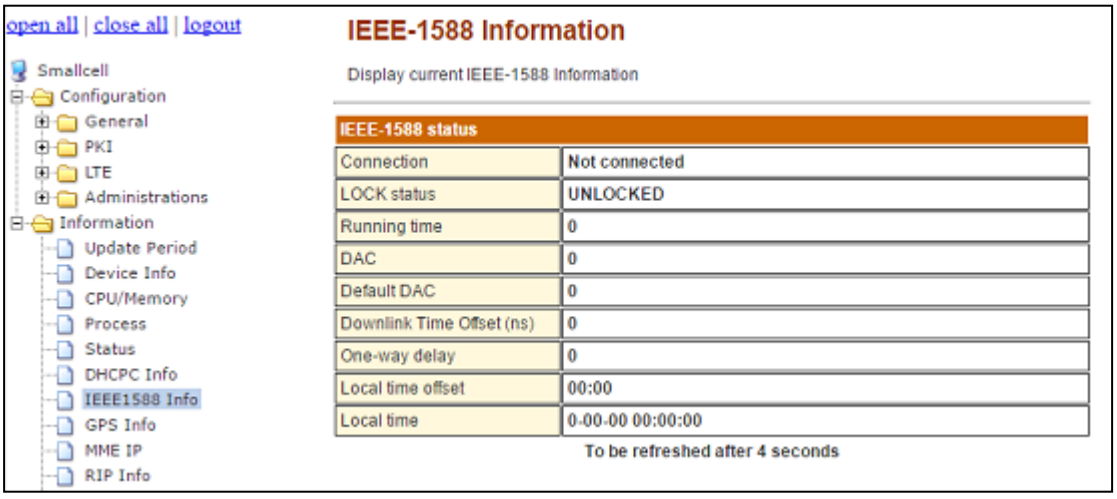


Figure 96: IEEE1588 Info

6.3.8 GPS Info

From the tree menu, select GPS Info to move onto the GPS information page. In this page, display current status of GPS.

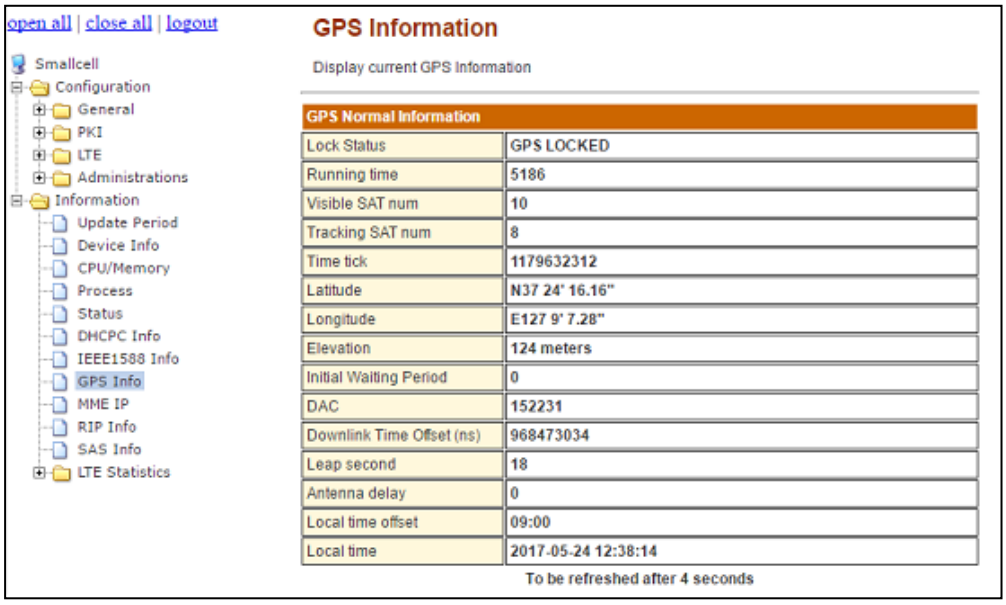


Figure 97: GPS Info

6.3.9 MME IP

From the tree menu, select MME IP to move onto the MME IP Information page. In this page, it displays the IP address of the MME of which FQDN has been resolved.

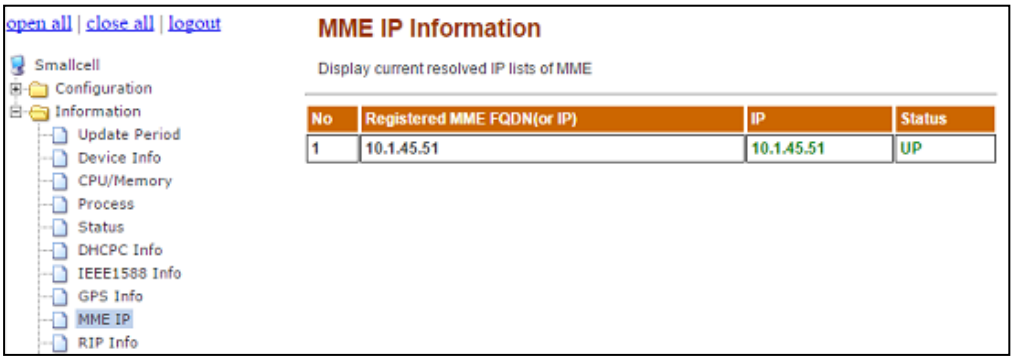


Figure 98: MME IP

6.3.10 RIP Info

From the tree menu, select RIP Info to move onto the LTE RIP Information page. In this page, it displays the current status of Rx Interference Power as shown in Figure 99.

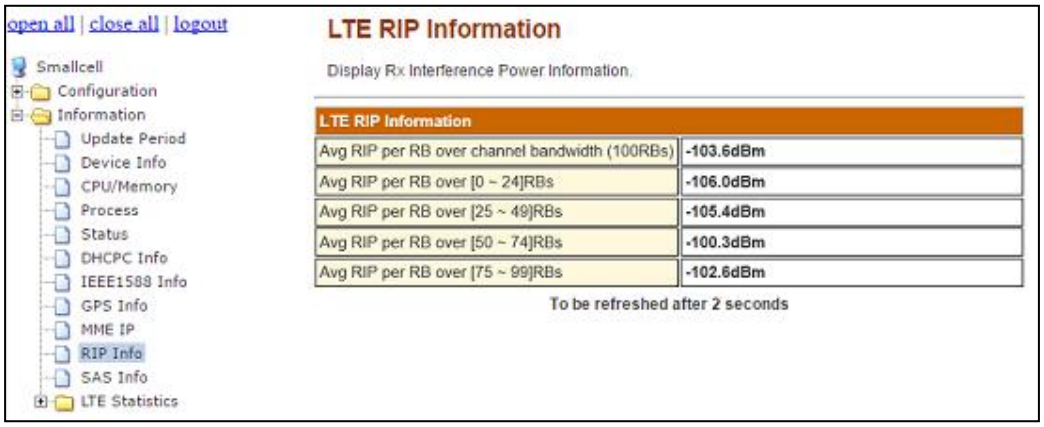


Figure 99: LTE RIP Information

6.3.11 SAS Info

From the tree menu, select SAS Info to move onto the SAS Information page. In this page, it displays the current SAS Information as shown in Figure 100.

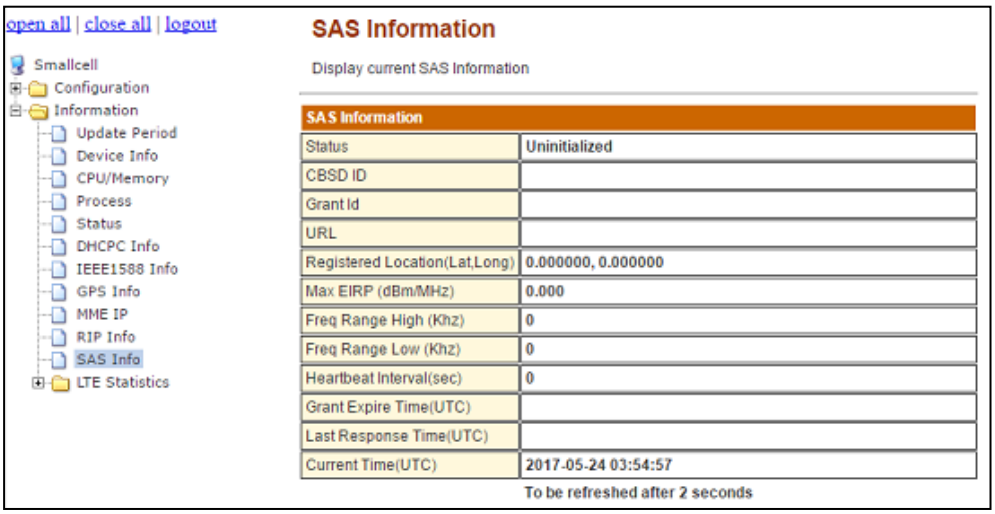
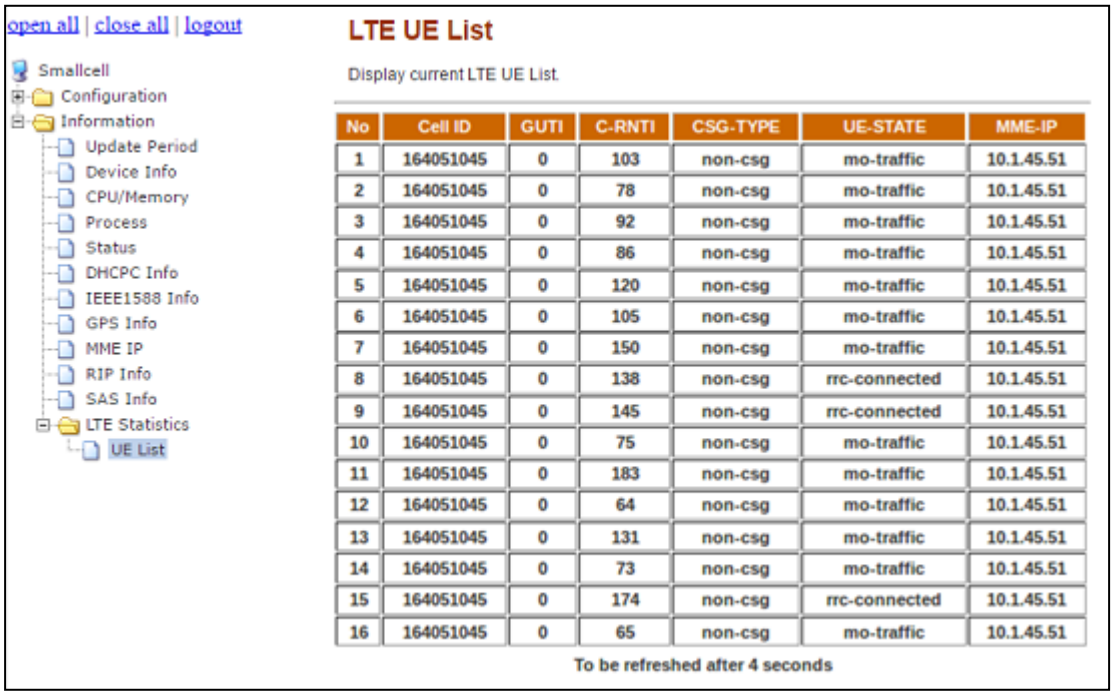


Figure 100: SAS Information

6.3.12 LTE Statistics Menu

6.3.12.1 UE List

From the tree menu, select LTE Statistics-UE List to move onto the LTE UE List page. In this page, it displays current LTE UE list at update moment as shown Figure 101



No	Cell ID	GUTI	C-RNTI	CSG-TYPE	UE-STATE	MME-IP
1	164051045	0	103	non-csg	mo-traffic	10.1.45.51
2	164051045	0	78	non-csg	mo-traffic	10.1.45.51
3	164051045	0	92	non-csg	mo-traffic	10.1.45.51
4	164051045	0	86	non-csg	mo-traffic	10.1.45.51
5	164051045	0	120	non-csg	mo-traffic	10.1.45.51
6	164051045	0	105	non-csg	mo-traffic	10.1.45.51
7	164051045	0	150	non-csg	mo-traffic	10.1.45.51
8	164051045	0	138	non-csg	rrc-connected	10.1.45.51
9	164051045	0	145	non-csg	rrc-connected	10.1.45.51
10	164051045	0	75	non-csg	mo-traffic	10.1.45.51
11	164051045	0	183	non-csg	mo-traffic	10.1.45.51
12	164051045	0	64	non-csg	mo-traffic	10.1.45.51
13	164051045	0	131	non-csg	mo-traffic	10.1.45.51
14	164051045	0	73	non-csg	mo-traffic	10.1.45.51
15	164051045	0	174	non-csg	rrc-connected	10.1.45.51
16	164051045	0	65	non-csg	mo-traffic	10.1.45.51

Figure 101: UE List

7 Product Safety and RF Exposure Compliance

The minimum safe distance to antenna is as follows:

Antenna gain (dBi)	Safe distance (cm)
14	90

Table 20: FCC Requirements of RF Exposure to Human

Appendix 1. Abbreviation

3GPP	3rd Generation Partnership Project
ANR	Automatic Neighbor Relation
ARQ	Automatic Repeat Request
BPF	Band Pass Filter
CA	Carrier Aggregation or Certificate Authority
CMAS	Commercial Mobile Alert System
CSR	Certificate Signing Request
DHCP	Dynamic Host Configuration Protocol
DL	Downlink
DNS	Domain Name Server
DSCP	Differentiated Services Code Point
EPC	Evolved Packet Core
E-RAB	E-UTRAN Radio Access Bearer
ETWS	Earthquake and Tsunami Warning System
E-UTRAN	Evolved UTRAN
FTP	File Transfer Protocol
GPS	Global Positioning System
GTP	GPRS Tunneling Protocol
GTP-U	GTP-User
GW	Gateway
HARQ	Hybrid Automatic Repeat Request
HeMS	HeNB Management System
HeNB	Home enhanced Node B
HO	Handover
HSS	Home Subscriber Server
HTTP	Hyper Text Transfer Protocol
ICMP	Internet Control Message Protocol
IP	Internet Protocol
LNA	Low Noise Amplifier
LTE	Long Term Evolution
MAC	Medium Access Control
MCC	Mobile Country Code
MCS	Modulation Coding Scheme

MIB	Master Information Block
MIMO	Multiple-Input Multiple-Output
MME	Mobility Management Entity
MNC	Mobile Network Code
OAM	Operation and Maintenance
PAM	Power Amplifier Module
PCI	Physical Cell Identity
PDCP	Packet Data Convergence Protocol
PDN	Packet Data Network
P-GW	PDN Gateway
PKI	Public Key Infrastructure
PLMN	Public Land Mobile Network
PoE	Power over Ethernet
PTP	Precision Time Protocol
PWS	Public Warning System
QAM	Quadrature Amplitude Modulation
QoS	Quality of Service
REM	Radio Environment Monitoring
RF	Radio Frequency
RLC	Radio Link Control
SCTP	Stream Control Transmission Protocol
S-GW	Serving Gateway
SIB	System Information Block
SMS	Short Message Service
SON	Self Organizing Network
TA	Tracking Area
TAC	Tracking Area Code
TDD	Time Division Duplex
UE	User Equipment
UL	Uplink
UTRAN	UMTS Terrestrial Radio Access Network
VLAN	Virtual Local Area Network